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Illustrations OF HOSPITAL PRACTICE:

METROPOLITAN AND PROVINCIAL.

ST. GEORGE'S HOSPITAL.

FRACTURE OF THE SKULL: ECCHYMOSIS UNDER THE OCULAR CONJUNCTIVA, WITHOUT FRACTURE OF THE ORBIT.

Under the care of E. CUTLER, Esq.

W. O., aged 71, groom, was admitted April 23rd, under the care of Mr. Cutler. He was riding a horse in Hyde Park, and fell off, from some cause which did not appear. He was brought in insensible, with a wound on the right side of the vertex of the skull, in which a very small piece of the bone was exposed. One or two small vessels bled freely, and were tied. Ecchymosis was noticed in the ocular conjunctiva, at the lower part of the left eye. The pupils were dilated and insensible. The pulse was irregular. It was noticed that he groaned a great deal, and moved his arms towards his head as though he felt pain there. There was a whiff in the breathing. There was no paralysis.

April 24th. He appeared slightly sensible, and tried to speak, but did not succeed. The pulse was irregular and weak. Otherwise he was much the same as yesterday.

April 25th. The pulse failed more, and became more irregular. There was no bleeding from the nose or ear. The ecchymosis in the ocular conjunctiva continued, but in no great quantity. He sank in the evening.

On *post mortem* examination, a linear fracture of the skull was found beneath the right temporal muscle, passing obliquely forwards from the lower part of the temporal fossa to the sphenoidal fissure. In this course, it cut across the groove for the middle meningeal artery, which was filled with blood; and, in connexion with this blood, a considerable clot was found passing forward on the floor of the orbit, and continuous with the blood under the conjunctiva of the lower segment of the eye. There was no appreciable effusion between the dura mater and the bone. The surface of the brain corresponding to the seat of fracture was marked by a superficial effusion of blood in the meshes of the pia mater; and the right lateral ventricle was filled with blood proceeding from superficial laceration of the substance of the brain there. The cerebral substance corresponding to the floor of the ventricle was broken up and softened, but this did not extend more than a very short distance into the cerebrum.

REMARKS. The diagnosis of the existence of fracture of the base of the skull, and of its situation and direction, has received so much attention of late, and has been so fully illustrated by many eminent surgeons, that it has at length reached to a tolerable degree of certainty. Cases, however, do occasionally occur which show that too absolute a reliance should not be placed even on the signs which used to be held as pathognomonic. Thus, in the ASSOCIATION MEDICAL JOURNAL for October 26, 1855, p. 968, is related a case, occurring under the care of Mr. Hawkins in St. George's Hospital, where ecchymosis under the ocular conjunctiva, with symptoms of lesion of the brain, was proved to depend on fracture of the bones of the face; and, in the *Transactions of the Pathological Society*, vol. vi, p. 23, our readers will find the details of a case, also from St. George's Hospital, in which prolonged and copious sero-sanguineous discharge from the ear, after injury of the head, was found to depend upon lesion of the tympanum, only the cranial bones proper being quite uninjured. In these cases, therefore, the diagnosis of the existence even of fracture of the skull would have been erroneous; in the one which we now quote, the error only affected the direction of the fracture, which was confined entirely to the middle fossa of the skull, while the signs rather pointed to a fracture of the anterior fossa. The fact of the fracture traversing the groove for the meningeal artery did not appear in this case to have been of any consequence, as no lesion of that vessel was discovered, and the small amount of blood found in the groove of bone which it occupied, where this groove was crossed by the fracture, was no more than might easily have proceeded from the vessels of the bone; nor was there any amount of blood between the bone and the dura mater, or any symptom of compression during life. This case is worth remembering, therefore, as showing that blood may be effused under the ocular conjunctiva, at the base of the orbit, in connexion with fracture passing from behind into the sphenoidal fissure.

Another point of interest in the case is the blood found in the lateral ventricle. Was this the effect of the accident, or its cause? In the absence of any history of the occurrence, the latter seems, to say the least of it, quite as probable; for, even allowing for the strange effects constantly seen to follow violence done to the brain, it seems unlikely that, while all other parts of this organ were uninjured, one surface of the ventricle should have been so much bruised, the opposite surface remaining entire; nor did the symptoms during life point to laceration of the brain as the cause of death. Cases where injury of the head has been mistaken for apoplexy, and *vice versâ*, are pretty frequently observed: in this instance, it is, at any rate, a reasonable conjecture that the two affections co-existed.

ST. BARTHOLOMEW'S HOSPITAL.

TWO CASES OF AMPUTATION.

Under the care of JAMES PAGET, Esq.

[*Reported by* EDGAR BARKER, Esq., *House-Surgeon.*]

CASE I. *Compound comminuted Fracture of the Tibia and Fibula about the Middle: Considerable Hæmorrhage: Gangrene of the Limb: Amputation.* W. J., aged 11, a healthy well nourished boy, was admitted April 14th into Kenton's Ward, on account of the above injury. He stated that, while attempting to get up behind a brewer's dray, a barrel slipped off, and fell against his leg. On admission, the injury above named was discovered; the countenance was anxious; pulse quick, small, and feeble. The limb soon became more swollen and cold, the countenance more anxious; and the lad complained of increasing drowsiness. Accordingly, there was nothing left but to remove the limb, which was performed in the upper third by Mr. Paget, three hours after the receipt of the injury.

Condition of the Limb. There was considerable effusion of blood into the surrounding tissues. The anterial tibial and peroneal vessels were torn across, as also the external saphenous vein and external cutaneous nerve.

He progressed favourably till April 21st, six days after the operation, when, on removing the dressings, it was found that the stump had opened, entirely exposing the bones, covered with lymph; the sutures having yielded, and all the ligatures come away. This was easily accounted for by the patient's constant restlessness, although every attempt was made to keep him quiet.

April 26th. The stump now looks remarkably well, and is healing rapidly, the surface of the bone still showing healthy granulations.

CASE II. *Ankylosis of both Hip and Knee-Joints: Amputation.* John R., aged 24, was admitted into Abernethy's Ward, under the care of Mr. Paget, with his left thigh bent at right angles to the body, and his knee ankylosed. He dated his illness from the 12th of December, twelve years ago, when an abscess formed in the anterior part of the thigh, from which, at different times, pieces of dead bone escaped; and on account of the severe pain caused by it, he placed his thigh at right angles to his body; at the end of twelve months he got up and found his thigh fixed in its present position. Eight years ago, the knee began to swell, and became very painful; it at length suppurated, and several openings formed above the knee-joint, com-

municating with dead bone. For the last seven years he has been able to get about on crutches, but with much inconvenience from the very awkward direction of the limb.

On the 4th of April he was brought into the theatre; chloroform was administered, and an attempt was made to straighten the limb, which, however, was found firmly fixed from bony ankylosis, and the head of the femur dislocated from the acetabulum, partly on the obturator foramen, and partly on the pubes. The knee-joint was also found united by bony ankylosis.

April 18th. Chloroform was administered, and the limb was removed by the circular incision at about the junction of the upper with the middle third of the thigh. Eight vessels requiring it were secured, sutures put in, and oiled lint with cotton wool applied. The man has had some unfavourable symptoms (viz., retention of urine, and a slight attack of jaundice), but these have now left him. The stump is granulating kindly, and he seems in a fair way of recovery.

Remarks. The former of these cases is given as an accompaniment to one reported in the Journal for March 28th, where, in a young child, gangrene occurred as the consequence of laceration of the popliteal vessels without fracture of the bones. The present is a more common occurrence, but one which, as far as our observation serves, is not very usual in childhood, at which age the vessels are so flexible and elastic as generally to resist the force which fractures the limb. The present is a less grave case than the one formerly reported, in consequence of the lower situation of the injury permitting amputation below the knee.

The interest of the second case lies principally in the circumstance of both the great joints of the limb having become ankylosed so firmly as to resist any force which could be applied to them, and in the singular deformity produced by the disadvantageous position in which that ankylosis had occurred—a deformity of which it is hardly possible to give an adequate idea without illustration; but some notion of which may be gained from imagining the extremity projecting as a rigid rod at right angles to the trunk. The limb is to be macerated in order to expose satisfactorily the state of the bones forming the knee. Should this dissection present any matter of interest, our readers may rely that the courtesy of the authorities of this Hospital will enable us to publish it.

ST. MARY'S HOSPITAL.

RETENTION OF URINE: ABSCESS BETWEEN THE BLADDER AND RECTUM: PUNCTURE PER RECTUM.

Under the care of W. Coulson, Esq.

[*From Notes by* E. A. Hart, Esq.]

Francis H., aged 40, a very weak, anæmic-looking man, was admitted under Mr. Coulson's care on January 27th, on account of stricture of the urethra, which had existed for about nine years. He had been treated for it at that time, and the stricture dilated so as to admit No. 6. The symptoms had recurred with severity a few weeks before his admission. At the latter date he had passed no urine for twenty-four hours, and no instrument could be passed into the bladder. After the use of the warm bath and opiates, however, he passed some water, and continued to do so, but in a small stream, and with much difficulty. The urine was albuminous and ammoniacal. During the next few days he had slight shivering occasionally, and on February 3rd suffered from a severe attack of rigors, followed by feverishness and copious perspirations, with much pain in the head. Frequent attempts were made to reach the bladder with every kind of instrument, but without success. There was a very rough and long stricture near the membranous portion of the urethra, through which, on one occasion, a silver catheter (No. 1) was passed, but experienced another obstacle behind the first stricture. Meanwhile, his health was very weak, he suffered much from the constant desire to pass water, and was further reduced by frequent attacks of diarrhœa. There seemed no prospect of introducing a catheter into the bladder, especially as in some of the numerous attempts at catheterisation a false passage had been formed. After more than a month's delay, therefore, it was resolved to puncture the bladder from the rectum. Accordingly, on March 4th, Mr. Coulson proceeded to perform this operation. On the finger being introduced into the bowel a large fluctuating swelling was felt anterior to the situation of the bladder. The trocar introduced into this gave exit to five or six ounces of pus, with great relief to the patient. Next day he had had a good night. Pus had been passed both from the urethra and rectum. The urine (which had been dribbling away for the last few days) now passed in a small stream. From this time he continued to improve, and soon regained the power of retaining his water. Pus continued for several weeks to pass both by the urethra and rectum. The abscess has now healed, an instrument can be made to reach the bladder, and the stricture is in process of cure.

Remarks. The above case is an instance of a stricture complicated by pressure from without, and, in all probability, made more intractable by the irritation which that pressure produced. The question as to the origin of the abscess which so pressed on the urethra, is one which it is difficult to answer. There was no distinct evidence of urinary infiltration; nor was the situation of the abscess such as to render this hypothesis probable. It seems more likely that inflammation of the mucous membrane of the bladder and urethra had been set up by the irritation of the stricture and the contact of diseased urine, and had spread down the ducts of the prostate into the follicles of this gland, thus occasioning abscess in its substance.

UNIVERSITY COLLEGE HOSPITAL.

MR. MARSHALL'S STAFF IN SYME'S OPERATION FOR STRICTURE.

We referred in our last number, while giving a description of a case of Syme's operation for stricture, to "Mr. Marshall's Staff." As this instrument may not have fallen under the notice of many of our readers, and as it appears to combine many indications, and greatly to facilitate the performance of the operation, we propose shortly to explain the invention, and its supposed advantages over the staff in common use—that of Syme. The latter is, as our readers are aware, a solid cylindrical grooved staff, with a shoulder, the groove reaching from the extremity of the staff a very short distance on to the shoulder. Mr. Marshall's instrument consists of a staff of a peculiar form, in two pieces, which are united by a screw. The shaft, instead of being cylindrical, is flattened on its posterior surface, has a larger curve than those in ordinary use, and the groove extends further up the shaft, and ceases further from the point. The lower piece is first introduced through the stricture into the bladder; and on to the upper piece a gum catheter, of corresponding shape, is fixed, having a silver piece at the lower end, which is marked on the back, or flat portion, by a groove, which thus corresponds to the groove on the rest of the staff. This upper piece being thus screwed on to the piece in the bladder, the catheter is pushed down it until it meets with the stricture, when it is, of course, checked. In this position it is fixed by a screw at the top, and then acts as a shoulder to the staff. The stricture is then divided in the ordinary way, and this division having been effected, the catheter is pushed on. If the division have been effectually performed, it will enter the bladder; otherwise its shoulder will be again arrested at the part which requires division, when it can be again fixed by the screw, and the knife used as required. When the catheter has fairly entered the bladder it is withdrawn, and a common catheter (having the end as well as the eye open) passed over the staff into the bladder: the staff is then removed.

The advantages of this plan are: 1. That the shoulder is movable and meets the stricture, wherever the latter may be. 2. That, from the shape of the instrument, the grove in the catheter must always correspond to that in the staff, and be in the median line posteriorly; and the catheter, with its shoulder, is perfectly steady, and does not slip about under the operator's finger. 3. That if any part of the stricture has escaped division, or if another constriction exists behind it, it is immediately discovered, and the shoulder can be at once applied to it. 4. That there can be no difficulty, after the division of the stricture, in introducing the catheter into the bladder, as the steel staff remains all the time to serve as a director. This latter is, perhaps, the most important advantage of this instrument, and one to which several other surgeons have directed their attention, and which they have endeavoured to obtain by inventions of more or less merit. These we do not intend to discuss at present, but will merely mention here, that the late Dr. Mackenzie of Edinburgh, and Mr. Haynes Walton, have proposed modifications of Syme's staff, the principle of which more or less resembles that of Mr. Marshall's instrument. These inventions, however, were never laid before the professional public; and whatever other merit is due to the ingenious apparatus devised by Mr. Marshall, that of originality must also be conceded to him.

Original Communications.

ON THE NATURE AND ORIGIN OF RENAL DISEASE.

By J. RUSSELL, M.D., Lecturer on Pathology at Sydenham College, Birmingham; and formerly Senior Physician to the Birmingham General Dispensary.

[*Read before the Birmingham and Midland Counties Branch, April 9th*, 1857.]

IN laying before this Branch a few remarks on the nature and origin of renal disease, I limit myself entirely to that large and important class of diseases of the kidney hitherto known under the collective name of Bright's disease; characterised as a group, though not of necessity as individuals, by the presence of albumen in the urine, by a serious diminution in the daily excretion of urinary salts, and by the passage from the kidney of tubules of certain peculiar casts; together with a tendency to the effusion of anasarcous fluid into the cellular tissue of the limbs and trunk.

Among the many interesting questions which the phenomena of this very heterogeneous class of diseases suggest, obviously the most important is that which relates to their nature and origin; since upon the answer which is given to this question must depend the views we entertain as to treatment, both curative and preventive. I therefore make no apology for introducing a subject, which, but for its practical application, may have rather an abstract appearance.

In discussing this subject, the first inquiry must relate to those morbid changes in the kidneys which constitute the disease. These have been recently described by Dr. George Johnson, in his work on *Diseases of the Kidney*. The *primary* changes vary in the different forms of the disease: in one form, the epithelial cells, which perform the function of secretion, are shrivelled and broken up, and the uriniferous tubules are, in consequence, either shrunk and wasted, or, being bared of their epithelial lining, are dilated to various degrees: in another form of the disease, the place of the cells is occupied by a homogeneous material, apparently of a fibrinous character: and in a third, to which the name of Bright's disease is sometimes restricted, these epithelial cells either remain loaded with fat, or, having been ruptured by excessive distension, fill the tubules with their oily contents. These primary changes are speedily followed by others, both in the tissues of the kidney itself, and in other organs of the body; but such changes, being of a *secondary* nature, do not concern our present inquiry.

The structural changes I have thus briefly indicated have one important character in common, which has a special bearing upon the opinion I shall suggest as to their nature and origin; viz., that they all commence in the *secreting instruments* of the kidney, the glandular epithelial cells which line the convoluted tubules; it is the *cortical portion* of the organ which receives the stress of the disease; the straight tubes which constitute the medullary portion, and which are little besides ducts, are affected to a much less extent, and often escape altogether. Further, it is important to observe that the changes in question are degenerative in their character, and in this respect are directly opposed to that creation of additional secreting tissue which constitutes true hypertrophy of the kidney, and which occurs in the course of the natural effort made by a *healthy* kidney to do double work, when its fellow is disabled by injury or disease; they thus satisfactorily agree with the prominent symptom of the disease—namely, the lessened amount of salts secreted in the urine.

The explanation of these various structural changes, which is given by Dr. Johnson, and to which I now wish to direct the attention of the Branch, is the following. The morbid changes take their origin in alteration of function in the parts diseased, viz., in the epithelial cells. In consequence of exposure to unhealthy influences of various kinds, the nutrition of the blood becomes depraved, and that fluid becomes loaded with unhealthy matters, which must be eliminated from the body; the labour of effecting this is thrown, in great measure, upon the kidneys, and materials of an unhealthy character are thus being continually brought for excretion to the cells of those organs: consequently, the function of the cells becomes perverted; their natural food, the excreta, is changed. As a necessary result their nutrition becomes impaired, and morbid alterations of structure are induced. Such alterations may be effected gradually, almost insensibly, if the corresponding change of function be itself induced gradually; on the other hand, if the work of the organ be suddenly changed, the alteration of kidney structure will be attended by a relative commotion in the organ itself, and secondarily, in the system at large. By what singular modification in the operation of the causes the different forms of the disease are produced, we are just as ignorant as we are of the causes which determine fatty degeneration in an organ at one time, wasting at another, and calcareous transformation at another. Much, no doubt, is due to the original constitution of the patient. Thus, one variety is most frequently met with in the strumous constitution.

Dr. Johnson's explanation of the disease seems to me to be supported by the great pathological law, that in every organ and tissue nutrition follows function, is related to it, and regulated by it; and I think it derives support, not only from the history of the patient's life and habits, and from the nature of the influences which seem to stand to the disease in the relation of cause, but also from the analogy of corresponding changes in other organs of the body. I shall beg leave to submit a few arguments of each class.

First, I will refer to the arguments derived from the analogy of other organs. Until lately, inflammation has been constantly referred to as the one important source in which most of the changes of structure, with which we are familiar, take their rise: and we now most naturally look for traces of this process in explaining any disease which falls under our observation. Late researches, however, have revealed to us a very large number of organic changes, which are entirely independent of inflammation. The large class of hypertrophies, properly so called—those, namely, in which the enlargement is entirely due to increase in the natural tissue of an organ—exhibit to us instances of large increase of dimension and weight, without any inflammation having been concerned in the process. On the other hand, in the class of atrophies, there is equal change in the opposite direction; and, although inflammation, like any other influence which depraves nutrition, may produce atrophy, yet, in a vast majority of instances, the change has been entirely independent of that process.

But it may be said, there is no alteration of structure in the instances cited; nothing but augmented or diminished bulk. Look, then, at the still larger class of degenerations; here are found muscular, arterial, cartilaginous, osseous, fibrous, and other tissues transmuted entirely into fat or earthy matter, or withered into mere fibro-cellular tissue, and yet inflammation has had no part in the matter. Look again at cancerous and tubercular formations, and at the non-malignant tumours; what numberless examples of extensive structural change, independent of inflammation, do they afford. And yet there is hardly one of the changes to which I have alluded which has not afforded, at one time or other, a battle-field for the question of how far inflammation has been concerned in its production:—the contest relating to the origin of tubercle, and of the atheroma of arteries, whether or not it is connected with inflammation, is one of our own day.

Since we have discarded the inflammatory origin of these and similar changes, it is a necessary question, in what do they originate? where is their starting point? I think it will not be doubted that in a large majority of the instances I have quoted, the first step in the process of change is connected with the *function* of the organ itself. In the hypertrophied heart, the first in the series of changes is a demand made upon the organ for increased exertion, in consequence of some obstacle retarding the onward current of the blood; just as conception takes place *before* the natural increase of the womb in pregnancy commences, thereby creating fresh demand on the nutrition of that organ. On the other hand, in the old woman we find the ovaries atrophied, in the palsied limb we find the muscles wasted or degenerated; here again the first step has been a change in the function of the organ affected, an abrogation or serious diminution of that particular function, just as in the womb lessened requirement, consequent upon delivery, precedes the shrinking which follows that event.

Perhaps the most striking exemplification of this waiting of nutrition upon function, is afforded by the changes which are gradually effected in the tissue of every organ during the period of decline from manhood to old age; as the time for mental and bodily activity passes away, the standard of nutrition in the entire body is lowered, and every form of degenerative change may be met with in the various tissues of the

body. The great tendency of our present pathology to explain change of structure by previous alteration of function is exemplified in the hypothesis concerning the nature of cancer, now most in favour:—that the cells of which cancerous tumours are made up are designed to eliminate from the blood, in the way of secretion, some peculiar matter injurious to the system, which generates the well known cancerous cachexia. This, though only a hypothesis, indicates the present course of opinion in pathology.

One more illustration I am tempted to add, as being more immediately connected with the subject in hand; I refer to the deteriorating influence which is exerted upon the nutrition of any organ, by an *unhealthy* demand made upon it for exertion. Let the hypertrophied heart be over taxed, and nutrition fails any longer to answer the demand: let the bodily frame be subjected to a long continued and excessive demand upon its energy, and in place of the healthy increase in nutrition which work in moderation excites, there is actual wasting, a state of cachexia; and similarly, to an over-taxed brain must be referred a long list of serious nervous diseases.

In the various cases I have now cited it is to the function of the organ chiefly concerned, that we direct the largest part of our attention, in endeavouring to cure the disease: in like manner, if the same explanation be correctly applied to the degenerations in the kidney cells which exist in Bright's disease, it must be our business, whether for prevention or for cure, to pay attention first to keeping the function of the organ in a healthy state, by removing those various causes which impose excessive or unnatural labour upon its secreting cells.

But here another question presents itself; it cannot be denied that certain forms of renal disease set in with every symptom of active congestion, if not of acute inflammation, such symptoms being present from the very beginning: this is the case in what is commonly called acute dropsy; and even in the chronic form, acute congestion may be readily excited by very trifling causes. Such being the case, it becomes incumbent upon those who deny the inflammatory origin of these diseases, to explain their relation to this state of vascular excitement. This relation we are in a better position to understand at the present day, when the near connection which undoubtedly exists between inflammation and the ordinary processes of nutrition, is beginning to be perceived. Formerly, when our attention was fixed too exclusively upon the prominent symptoms of inflammation, the vascular turgescence, and the effused fluids, we were in the habit of regarding inflammation as a disease quite *sui generis;* we had neglected to observe that in the perfectly natural course of things, wonderful variations in the degree of vascular activity are being continually produced; we had forgotten that lymph, in no respect distinguishable from the product of inflammation, is poured out in the quiet process of the repair of wounds and fractures. In these and other effects we now perceive how nearly inflammation is related to nutrition, although it must be confessed that very much yet remains to be done before the exact nature of this relation is fully understood.

These remarks will find their application in the active congestions which are not unfrequently associated, at some time or other, with diseases of the kidney. The blood-vessels are the great agents in nutrition: in this respect they are second only to the proper vital action of the tissues themselves; but sound pathology requires it to be remembered that the vessels do hold the second, and not the first place, as was at one time the belief. The whole subject of cell development has placed in its correct position the relation held by the bloodvessels to every process of nutrition; for in watching the healing of a wound, for instance, we find progress effected in the transformation of the cells in the effused lymph, before any vessels have made their appearance; and in the embryo the blood is by no means the earliest tissue developed.

This secondary, but still most intimate relation of the blood-vessels to the tissues, affords means of rendering a satisfactory explanation of many cases of active congestion and inflammation, an explanation, too, which I think may be correctly applied to the case of the kidneys; for it must follow that no change can by possibility be effected in the nutrition of any organ or tissue without inducing, as a necessary consequence, a corresponding change in the circulation of the part. Determination of blood to the womb is set up as soon as the process of increased growth, or natural hypertrophy, which is instituted by conception, commences; determination to the neighbourhood of a wound is established as soon as the process of granulation has fairly begun. So long as the demand, in obedience to which this determination of blood takes place, is within the limits of health, the excitement of the blood-vessels, though often considerable, is in perfect agreement with the normal course of nutrition; but such is not the case when the stimulus is carried beyond this point. When the infant is put to the breast, the distended veins give intimation of the increase which immediately takes place in the rush of blood, with the obvious intent of furnishing matter for the secretion of milk; but if the natural stimulus excited by the contact of the child's lips with the nipple be exaggerated by a crack or excoriation, the determination of blood runs on to inflammation: in the same manner, in any secreting organ, in the mucous membrane of the bowels, for instance, a moderate purgative increases the intestinal secretions, but a drastic purge gives rise to congestion, possibly to inflammation, with transudation of the constituent elements of the blood; or, to bring the analogy still nearer to our present subject, a large dose of a diuretic, and particularly of the stronger ones, will be followed by congestion of the kidney. Now, in all of these cases the organ is stated to have been over-stimulated; speaking more accurately, the congestion is brought on by an excessive amount of the self same stimulus, which, in a moderate degree, had simply produced healthy rush of blood, by quickening the healthy function to a state of greater activity.

There is also another influence in operation in many stages of renal disease, which equally tends to the production of congestion. We know that an intimate relation exists between the blood and the capillary vessels of every organ, although we are not able to explain this relation. Natural variations in the circulation of different organs are entirely inexplicable by the mere impulse of the heart. How otherwise could we account for the necessary determination of blood to the womb only at certain particular periods of the individual's life? How could we explain the rush to a secreting organ to supply the material of secretion? This relation is special to every organ, and upon its maintenance freedom of circulation through each organ mainly depends; therefore, when it is disturbed in any way, stagnation of blood or congestion must follow. The phenomena of asphyxia afford a very good illustration of this fact. The admission of air to the lungs being cut off, the blood in the capillaries of the lungs can no longer be aërated; consequently, the relation which this blood ought to bear to those capillaries is altered, and arrest of the capillary circulation is the consequence, as evidenced by the loaded pulmonary artery and right side of the heart, contrasted with the empty condition of the pulmonary veins.

The same cause which operates in asphyxia, impurity of blood, operates also in disease of the kidney, and must naturally tend to increase the difficulty of the circulation through their substance; and this cause has produced a very interesting secondary change, pointed out by Dr. Johnson—namely, hypertrophy of the small arteries—such hypertrophy constituting as evident a measure of retarded circulation in the particular organ, as hypertrophy of the heart does of the obstacle presented by a narrowed orifice.

From the analogies which I have now submitted to your consideration, I think I am allowed to conclude that alterations of function in any organ have a natural tendency to induce alterations of structure, varying more and more widely, according to the extent to which the function is forced to deviate from the limits of health; also that such alterations of structure may be effected either with or without vascular excitement; but that, when the vascular excitement is present, it very often exists as a secondary result. How far this conclusion extends, we are yet ignorant; we are only just beginning to understand the phenomena of inflammation, and although we can now discover their origin in the cause I have been particularly referring to, this explanation can only apply to a very limited number of cases; it is, however, if true, of the highest value, as affording a safe position from which to start in investigating those forms of inflammation which are yet so little understood.

I must, however, add, that when once this vascular excitement has been established, it may come to play a prominent part in the case; being itself the product of an unnatural state, and being, therefore, in itself unnatural, it may easily proceed to extreme lengths; it may even absorb the principal share of our attention, and require special and active treatment; but still such treatment must be conducted with a constant reference to the function, in the disorder of which the vascular excitement originated. An obvious illustration is afforded by our treatment of acute dropsy, whether after scarlatina, or exposure to cold, or from any other cause; we are often obliged to employ active antiphlogistic treatment, as cupping, leeches, counter-

irritation, etc.; but at the same time we remember the origin of the congestion in disordered function of the kidney, and we immediately endeavour to ease the labouring organ through the medium of the skin and of the bowels; indeed, the latter branch of the treatment may not unfrequently render the former either entirely unnecessary, or required to a much less extent.

It only remains that I justify the assertion, that the condition of the kidneys, in patients who are suffering from the disease in question, is such as to have involved an unnatural state of their function. Such justification must be gained from the history of the patients. I think I may safely assert, that whenever a cause has been fairly made out, it is such as must bear directly upon the function of the kidneys; thus in the forms of acute dropsy, the sudden suppression of the cutaneous, and possibly in some cases, of other secretions, makes a sudden and unnatural demand upon the kidneys. In cases of scarlatina, of cholera, of typhus, we have the element of sudden admixture of poison with the blood, in addition, in many cases at least, to unfavourable influences acting upon the skin; disorder of the urinary functions, active congestion and its attendants, are the result; and a rapid and irregular development of epithelial cells, as manifested by the urine during life, and by the kidney after death, affords visible testimony to the labour in which the organ is engaged. More frequently the cause appears of such a nature as to act gradually, but to maintain its action through a long duration of time; the gouty diathesis and habitual intemperance constitute, perhaps, the most frequent causes of chronic renal disease, of the class we are considering; here the relation to the kidneys is also distinct; the poison of gout is either itself lithic acid, or is closely allied to that substance, and alcohol also has a direct affinity for the kidney, acting as a diuretic, and being actually capable of detection in the urine.

I shall not detain the Branch whilst I enumerate other unfavourable influences which seem to act as causes: various unhealthy modes of life, different forms of cachexia, particularly the strumous, and of blood poisoning, etc.; like those to which I have already alluded, they variously derange the constitution of the blood, either by directly introducing unhealthy matters, or no doubt more frequently by altering its nutritive changes; in some of these instances, we have to depend upon analogy for explaining the operation of the supposed cause.

I ought not to omit to add, that in explaining the operation of these various causes, we have generally to take into the account those various circumstances which predispose the organs to take on disease; without these having existed previously, many of the morbific influences we have alluded to would often fail in effecting so serious a disorder of function.

It is matter of easy observation that the cells of the kidney tubes are exceedingly sensitive to all unhealthy states of the general system; in various forms of cachexia, in chronic disease, in complaints which originate in poisoned blood, such as the fevers, pyæmia, etc., the microscope readily detects very visible changes in the kidney epithelium, even though there have been no signs of disorder in the organs during life. In these appearances, which a small amount of microscopic experience will enable anyone to verify for himself, we see perhaps the very commencement of organic change, and we can readily conceive that if the unfavourable condition, in which these appearances have originated, should act more powerfully at any time, permanent changes in these delicate organs would be the result.

In conclusion, I can only make a passing reference to the analogy presented by the liver in its diseases. In certain of the structural changes to which that organ is subject, we recognise great resemblance to those which take place in the kidney; and this resemblance becomes closer in exact proportion as we discover more of the nature and operation of the causes of liver disease.

ON THE SECOND SOUND AND MURMUR OF THE HEART AND GREAT VESSELS, IN THEIR RELATION TO DIAGNOSIS.

By JOHN COCKLE, M.D., Physician to the City Dispensary, and to the Margaret Street Dispensary for Consumption, etc.

[*Continued from page* 338.]

I PASS now to the consideration of the second sound and murmur of the pulmonary artery. It has been already mentioned, that any change which places the artery in more immediate contact with the chest wall—contraction of the left lung, for example—allows its pulsation to be both seen and felt, and unequivocally intensifies its sounds; excavations in the superior and middle lobes of the lung; induration of its anterior border, by immediate pressure upon the artery, modifies the sounds.

The following case strikingly illustrates such change from this latter condition. Jane Barnes, aged 30, married, of short stature and florid complexion, was admitted a patient of the City Dispensary on December 11th, 1856. She attributes her illness to sleeping in a damp bed six years ago. Since that time she has suffered from dyspnœa and cough, with yellow expectoration. At present, in addition to these symptoms, she complains of pain in the shoulder blades, the right more particularly; profuse nocturnal perspiration; very slight loss of flesh; she lies most easily upon her right side. She has not menstruated during the last two years. She has never had hæmoptysis. Her mother is still living; but consumption has occurred in some members of her family.

Inspection. The chest is deficient in symmetry. The left scapula is nearer the spine, and not nearly so mobile on inspiration as the right scapula. The apex of the heart is nearly *in situ*. The fingers are clubbed. She has slight lividity of lips.

Palpation. A silvery *fremitus* is felt over the second and third left costal cartilages. Pulse weak; slightly quickened, but quite regular.

Percussion. There is marked dulness and sense of tactile resistance from below the left clavicle to the mamma. A somewhat tubular note is heard under the right clavicle.

Auscultation. Under the right clavicle are heard phenomena of cavern or dilated tubes. Under the left clavicle, bronchial breathing; the respiratory murmur is absent to the mamma. Between the second and third left costal cartilages, both sounds of the heart are entirely replaced by hoarse murmurs of nearly equal length and intensity; loudest during expiration. To the right of the sternum, the sounds gradually acquire the normal character, as also in the carotids and at the apex.

Dr. Elliotson, who examined this case, made the interesting observation that, upon placing the patient in the recumbent position, the first murmur became converted into leather creak sound.

It is stated also, upon the highest authority, that insufficiency of the mitral valve, *par excellence*, induces marked intensification of the second sound of the pulmonary artery. That such result may occasionally obtain, seems admitted by most observers; but, even at the risk of being considered thoroughly in error, I must express my total dissent from the universality of this proposition. Of course, if it be assumed that insufficiency of the left venous valve cannot exist without such accent characterising it, I have no argument to offer; as *post mortem* examinations, made of cases with the observed sign, do not very often present themselves to my notice. I can only say, I have made many examinations after death where the mitral valve had unquestionably allowed free regurgitation, and the sign before death did not exist in any marked degree; and again, in a large number of cases observed upon the living, with all the other physical signs, save increased accent, supposed to characterise such change, we are forced to the conclusion, that such signs always indicate some intraventricular change, other than regurgitation, a consequence, I fancy, opposed to our diagnostic convictions. In support of the views advanced, I think I may cite a high authority, Dr. Walshe.

In extreme *stenosis* of the aortic orifice, as Kurschner has most truly observed, the chambers of the heart and pulmonic system are also kept unnaturally loaded, and would, theoretically, tend equally to a more marked accent of the second sound of the pulmonary artery.

In marked aortic, as in mitral valvular disease, however, it appears to me that we often render ourselves liable to the charge of confounding relative with absolute increase of sound of the semilunar valves of the pulmonary artery. In both instances, the aorta, receiving a diminished supply of blood, would have its valvular sound of closure weakened by want of the requisite distension, leaving that of the pulmonary artery in relative excess.

I would also hazard the passing remark, that I believe slight mitral regurgitant murmur to be extremely common, and that it neither necessarily intensifies the second sound of the pulmonary artery, nor developes dilated hypertrophy of the chambers of the heart.

That congenital malformation of the valvular apparatus of the pulmonary artery, and by inference, a patent condition of the *foramen ovale*, may also cause the second sound to be entirely masked by a prolonged systolic murmur, has, I conceive, a high degree of probability in its favour. I specially refer to a

case published by me in the ASSOCIATION MEDICAL JOURNAL for September 20th, 1856. Both the cases of pulmonary arterial murmur alluded to have been examined by many of the most distinguished observers in this city.

I must, however, leave the subject in other and abler hands, and content myself with expressing the conviction, that, ere long, physical phenomena characterising a transient or persistent alteration of the valvular mechanism of the right side of the heart will be found less rare than has been hitherto imagined; although naturally bearing a very small proportion to those of the left orifices.

In organic changes of the left auriculo-ventricular orifice, the second sound may undergo modifications with regard to its intonation, or be replaced altogether by murmur.

First, with regard to the alteration of the sound in mitral regurgitant disease; it may be either annihilated or intensified at the apex; and how are such opposite conditions to be explained? So far as relates to the occasional extinction of the second sound at the apex, the explanation in some cases is not so difficult. A prolonged (and it may be) harsh systolic murmur, with its maximum near the apex, may entirely replace the first normal sound, and usurp all that period of a revolution of the heart's action which should be filled up by the periods of silence and second sound of the heart, and permit but a barely appreciable cessation before the succeeding systole; indeed, almost the only knowledge we possess that the murmur is not absolutely continuous, is, rather by the distinction between the decrease and increase of the sound; or, at other times, the second sound may, upon very careful auscultation, be faintly heard through the murmur. In such a case, as may be readily shewn by experiment, a blowing sound of intense pitch will mask a sound of lower pitch in its neighbourhood; so, in this instance, the second arterial sound is more or less drowned amid the intense and prolonged whirl of the murmur, but the sound may be frequently again audible at a point remote from the focus of the murmur. Another cause may probably concur in weakening the second arterial sound. Should a murmur be very prolonged, and, it may happen, the regurgitation considerable, we may assume that the left auricle would be kept preternaturally distended. Under these circumstances, the overcharged auricle would press upon the origin of the aorta, and even the pulmonary artery, and by such pressure tend to weaken the natural sounds of closure. At least, this is the only explanation to which I could come when listening for the accented pulmonary sound in some supposed cases of mitral insufficiency with congestion of the pulmonic system, when the second sound was no longer audible at the apex. There is another cause, also, capable of damping sounds, especially the second; and that is, excessive accumulation of fat in the neighbourhood of the base of the heart. When, on the contrary, the second sound is distinctly audible at the apex, I think, generally, the systolic whiff is not prolonged, nor the auricle overcharged; so that the second arterial sound may be transmitted from the base.

But the difficulty is not altogether met even here, for, occasionally, the second sound is heard of different pitch, and louder, at the base, than at the apex; and in these cases the argument is strong for the origin of this sound in the neighbourhood of the mitral orifice. It is clear that the theory of Roger would not apply here; because, if the insufficiency were caused by the valves not approximating, they could engender no sound from actual separation, but still a conceivable source of second sound is obvious: the over-filled auricle would naturally discharge its contents, in part, into the left chamber immediately upon the cessation of the systolic act, and the blood, impinging upon valves more or less thickened and rigid, might give rise to the sound in question.

I now pass to the replacement of the second arterial and ventricular sounds by murmur, over the body and apex of the ventricles.

The occurrence of such murmur, engendered at the right side of the heart, is avowedly so rare, that it scarcely admits even a passing mention. I am not aware that a well detailed case exists, and yet the conditions for the production of murmur undoubtedly occur now and then. The best recorded instances in which such special changes occurred, limited to the right side of the heart, were discovered prior to the invention of the stethoscope; I allude to the remarkable cases of Morgagni, Bertin, etc. With regard to the comparatively common constrictive disease of the mitral orifice, the most extraordinary discrepancy of opinion prevails; indeed, if there be one point in the history of physical cardiac diagnosis, which, even in the present day, requires, more than any other, an exact comparison of the auscultatory phenomena with the *post mortem* change, it is this, beyond all doubt. To illustrate my meaning more particularly, I will quote the opinions of some great authorities. Skoda states, that, in auriculo-ventricular contraction, "the second sound in the left ventricle is replaced by a murmur, often so prolonged as to be interrupted only momentarily during the heart's systole". Barth and Roger, although admitting that a murmur in lieu of the second sound may characterise the lesion in question, yet state that, in some cases, they have heard a *bruit* during systole alone. On the other hand, Fauvel, a highly distinguished observer (*Archives Générales*), after most careful inquiry, challenges the production of a single well recorded example of abnormal bruit replacing the second sound at the heart's apex coinciding with auriculo-ventricular contraction. He has published some well marked cases of such change, the physical signs co-existing with which were most faithfully noted during life, and compared with the physical changes ascertained after death; in all, without exception, the murmur was presystolic or systolic.

Now how are such diametrically opposed statements to be reconciled, each party appealing to a positive experience? So far as my own opportunities permit me to judge, I should say, without denying the counterstatement, that Fauvel's opinion contains most of positive value; at the same time, I am ready to admit, that to distinguish between presystolic and post-diastolic murmur is, practically, of immense difficulty. The important point for us, however, as physical explorers, is to ascertain the time of the murmur in contracted mitral orifice, that is, whether it most commonly attends the systole or diastole, or both. The difficulty is occasionally great, from co-existent lesion of the aortic orifice.

With regard to the differential diagnosis of aortic and mitral valvular disease, both constrictive and regurgitant, it is of importance to ascertain the character of the sounds in the carotid arteries, and to determine, by percussion, whether enlargement of the heart preponderate in the oblique or transverse diameter. The necessity of this latter knowledge has been pointedly enforced of late years by writers, both of the German and French schools; the merit, however, of systematically directing attention to this pathologic change, at least in the dead body, is due to that distinguished pathologist, Dr. Adams of Dublin. His Essay is a model of investigation, and deserves the most careful study of all who seek a philosophical explanation of the mechanism of the disorders of the circulation.

I have known contracted mitral orifice often to run a fatal course, without other physical evidence than deranged rhythm of the heart, and constant irregularity of the pulse. The heart's sounds in other cases, and perhaps the most numerous class, acquire the character which Skoda designates as "indeterminate", associated with a murmur, faint and circumscribed, extremely difficult to precise, fusing into systole, diastole, and periods of rest. There is one condition which might, on the ordinary theory, be mistaken for auriculo-ventricular insufficiency and contraction; namely, calcification of the aorta. In this affection, double murmur, more or less intense, may be heard, even at the apex. The rhythm of the heart is greatly disturbed; the contractions very unequal; the pulse small, quick, weak, irregular: but the differential diagnosis may, I think, be determined by the fact of the heart's area being generally, in aortic disease, increased in its oblique diameter; by the murmur being more intense, and traceable over and up the aorta, and certainly not lessening in its ascent.

In a case of suspected adhesion of the pericardium to the left costal pleura, I particularly observed that the second sound at the apex was converted into one of a dull, jogging character.

I have, finally, briefly to allude to the reduplication of the second sound of the heart, both at the base and of the apex, in so far as it may subserve our subject of diagnosis. Indeed, I think this very common phenomenon deserving a far greater attention than it has hitherto attracted. In a paper published by me in the ASSOCIATION MEDICAL JOURNAL for May 24 and 31, 1856, I detailed some cases of interest; since then I have met with the following cases, in which the phenomenon was unusually marked.

I recently saw, with Mr. W. B. Whitfield, a patient who was suffering from cardiac and intercurrent pulmonary disease. Mr. Whitfield had been struck with the singular repeat of the second sound at the left apex, and made particular mention of this fact to me before I examined the case. The first and second sounds at the base were more or less masked by a short, hoarse *souffle*, and the rhythm of the heart

was much disturbed. At the left apex the first sound was still somewhat obscure, but the second was loudly reduplicate without a trace of murmur: the phenomenon had persisted some considerable time.

In a second case, the patient, a young woman, was evidently phthisical; she had recently suffered from violent hæmoptysis: at the base, the second sounds were loudly and distinctly reduplicate; while, at the apex, the second sound was heard clear, single, and defined.

The last case I have to mention, and which has been examined by many competent observers, is so unusual, that I think it right to state it in detail.

CASE. Alfred Adams, aged 24, a coppersmith by trade, of middle stature, slightly built, of dark brown skin and florid lips, had an attack of hæmoptysis five or six years ago. A second attack occurred eight months ago; he thinks a quart of blood was expectorated altogether in this last attack. It occurred at night, and was preceded by cough.

Present symptoms. He has dyspnœa; cardiac and epigastric pain, of burning character on exertion; pain in the arms; palpitation, which has existed for some years; cough, with slight yellow expectoration; great nervousness; morning sickness; he sleeps in the horizontal posture; he has never had rheumatic fever. There is no evidence of renal disease.

Inspection. The chest is symmetrical; the left nipple slightly highest; there is no marked arterial impulse or venous distension. The heart's impulse is observed at, and two inches to the left of the left nipple; it is slight *in epigastrio;* respiration is tranquil during a state of repose.

Palpation. The cardiac impulse is considerably increased (systolic and diastolic); there is heaving, fine diastolic *fremitus;* the apex of the heart is felt two inches to the left of the left nipple. The pulse is of the same character in both wrists, exceedingly irregular and unequal, a few slow, followed by very rapid beats.

Percussion. The area of cardiac impulse is increased both to the left and the right side, corresponding to the visible and felt impulse.

Auscultation. The impulse is slightly heaving; the first sound of crumpling and rasping character at the base (right and left), the apex, and round the axilla; it is less marked in carotids. The second sound repeats itself four times distinctly. This repetition sound is audible at the right and left base, at the aortic and pulmonic cartilages; indeed, all over the anterior surface of the chest, diminishing in the carotids. It extends also from the apex to the left axilla, and is gradually lost posteriorly. This phenomenon has persisted for some time.

With regard, then, to the repetition sound of the heart, I would remark:—

1. It is a phenomenon subject to variation; in one class of cases at times distinct, at others apparently shading into some modification of murmur.
2. It may be either transient or persistent in character.
3. It is very frequently connected with pulmonary irritation.
4. It generally ceases to be audible while the heart's action is accelerated to become again distinct as the heart resumes its average rate of speed.

Skoda is doubtless correct in assuming that in some cases the divided beat is an element of a murmur; but there are certainly numerous cases in which the reduplication at base or apex is so distinct and unmixed with any quality of murmur, that some more comprehensive explanation of its mechanism has yet to be given.

[ERRATA. In the former part of this paper, published on April 25th, in page 337, column 2, line 6, *after* "blood streaming from the cavæ", *read* "and pulmonary veins". In page 338, column 2, line 40, *for* "long", *read* "bony".]

SURGICAL OBSERVATIONS AND REFLECTIONS.

By JOHN SLOANE, M.D., House-Surgeon to the Leicester Infirmary, etc.

[*Read before the Leicester Medical Society, March 10th*, 1857.]

I. AMPUTATIONS.

ALLOW me first to direct your attention to amputations. I have for some time entertained the opinion that the common methods of operating in amputations of the thigh, upper part of the leg, arm, and upper part of forearm, and the subsequent treatment usually adopted, are faulty, and may be improved. Flap amputations are now fashionable; and I fear that we, as medical men, are too apt to be influenced in the treatment of disease by the prevailing fashion; too ready to adopt any plan possessing the charm of novelty, recommended by a distinguished professional brother, who, with his mind perhaps imbued with some preconceived notion, may not have rightly interpreted the phenomena he observed. If I endeavour to point out what, in my humble opinion, are fashionable surgical errors, I feel confident that the members of this Society will not blame me because I dare to differ from the recognised authorities; and that, regarding the disputed questions I shall notice, you will return a verdict in accordance with the evidence.

What are the comparative merits of the circular and flap methods of amputating? I shall allow Mr. Erichsen (whose work on *Surgery* is the most recent) to answer. He says: "Educated in the doctrines of Mr. Liston, who invariably amputated by the flap method, and who certainly did this with wonderful precision and rapidity, I have been in the habit of performing this operation in preference to the circular, over which it certainly possesses the special advantages of greater celerity in performance, more perfect coaptation and smoothness of the opposite sides of the wound, and greater tendency to union by the first intention." That an amputation by flaps may be more quickly performed than by the circular plan, is true; and this was a great recommendation in its favour before the introduction of anæsthetics, but it now has lost its force, as two or three minutes more or less under the influence of chloroform matter little.

Picture in your imaginations a healthy patient whose thigh is being amputated by flaps, for an accident sustained a few hours previously. The following is the course usually adopted. The surgeon, with a laudable anxiety to have the end of the bone well covered, makes the flaps of a good size: he finds that the skin and subcutaneous areolar tissue retract much more than the muscles; but, by exercising a little force, he succeeds in bringing the edges together with several points of interrupted suture. As masses of muscle are bulging through the intervening spaces, long strips of adhesive plaster are applied, to complete the closure of the wound; and round the ends of these are applied two or three additional strips, to prevent them from slipping. There is now considerable tension in the stump; but, in a day or two, the swelling consequent on such an extensive wound has caused the tension to increase to an injurious degree, and the very results which we should expect usually occur. Inflammatory action runs high, causing much pain, and requiring the exhibition of opiates. Union by the first intention rarely occurs. Frequently, about the third day, the surgeon perceives a roseate blush in the lower part of the stump; poultices or hot fomentations are applied; the plasters and sutures are removed. Probably, in a few days more, pus has formed at various points in the limb, to which exit is given by incisions; and more or less sloughing of the edges of the wound has occurred. When the inflammation has been subdued, the flaps are again drawn together by plaster, and they unite by granulation. A large proportion of patients, however, do not successfully pass through this ordeal. Do not misunderstand me. I do not say that all these mishaps occur in every case of flap amputation, but in most we have one or more of them.

"Relieve tension," is a good surgical rule, which we act upon with beneficial results; as, for example, in diffuse areolar inflammation of the hand, where we prevent much mischief by early and free incisions: and, in the treatment of stumps which I have described, effectual measures are taken to relieve the tension, which, it is my firm conviction, would never have existed had a more scientific method of operating, and a more rational mode of dressing the wound afterwards, been adopted.

It is well known that the mortality is much greater after amputations for injury than for disease. In 140 cases of flap amputation at University College Hospital, the mortality in cases of injury was 31 per cent., whereas in cases of disease it was only 19 per cent. The majority of the diseases requiring amputation exist in strumous debilitated subjects; and it is surprising that such extensive wounds should heal better in them than in patients in rude health. This fact may be easily explained. In diseased patients, the muscles are usually atrophied, and therefore there is less tension after the operation.

An analysis of cases of amputation in the Radcliffe Infirmary, Oxford, drawn up by Mr. Hussey, and read by him at the Royal Medical and Chirurgical Society in 1856, powerfully

supports my views. Of 124 cases of amputation for diseases, only 13 died, the mortality being at the rate of 10½ per cent.; and of 56 cases for injury, 10 died, the mortality being 18 per cent. It should be observed that, of 8 cases of amputation of the thigh for injury, 5 died, all the latter being very severe cases, attended with circumstances little favourable to recovery. The operations were usually done by double circular incision, the integument being reflected before division of the muscular substance; and very few were done by flaps, in cases where the soft parts were sound, and admitted of circular incision. Compare these results with those mentioned by Erichsen, where the mortality, as I have previously stated, after amputation for injury, was 31 per cent.; and for diseases, 19 per cent. In most if not all of these cases, the flap operation was performed.

Perhaps I shall be told that, after the flap amputation, there is a much better covering for the end of the bone, which forms a soft cushion between it and the artificial limb; but, as you probably all know, after no operation except Syme's or Chopart's can any pressure be borne on the end of the stump, which is usually very sensitive and tender. This rule applies to the wealthy, who can procure the most perfect substitute for the amputated member, as well as to the poor patient, who must hobble about on the common "pin". The pad of muscle must become absorbed in a great measure, as it is well known that muscular tissue, when not functionally active, atrophies. In persons affected with paraplegia, the muscles of the lower extremities not only waste, but their structure alters, and they degenerate in great part into fibrous tissue mixed with fat. The muscles over the end of a stump must be inactive; they cannot have formed new attachments beyond the end of the bone. These views are corroborated by my own observations. I have taken care, for a considerable period, to examine as many stumps as possible, and, in every old stump I have seen, the ends of the bones were only covered with skin and some subcutaneous tissue; and in no instance was there a thick pad. I believe it takes some years for the stump to become conical, as, when patients are discharged from hospital after amputation, I know the bone is usually well covered at the point. I have reason to believe that, when a well formed artificial limb is supplied, this change does not take place to the same extent. In all the cases I have examined, pieces of mechanism of a rude construction had been worn.

The plans of amputation which appear to me to be most rational are the circular, or a modification of the flap. In the circular, the skin and subcutaneous tissues, being divided by one sweep of the knife, should be separated from the fascia to the extent of an inch or an inch and a half, according to the thickness of muscle. Then the muscles should be cut in an oblique direction upwards, so as to leave a sufficient covering for the end of the bone. The edges of the wound should be drawn together by interrupted sutures, and, in the intervals, short strips of adhesive plaster, allowing abundant space for serous or other discharges to escape. The advantages of this method of operating are, that allowance is made for the greater retraction of the cutaneous than of the muscular tissues. There is not a mass of muscle which is useless, as it is afterwards almost completely absorbed, and injurious, as it causes tension; and, to use the language wrongly applied, in my humble opinion, by Mr. Erichsen to the flap amputation, the circular plan possesses the comparative advantages of more perfect coaptation and smoothness of the opposite sides of the wound, and of greater tendency to union by the first intention.

If there be no great tendency to separation of the edges of the wound (and there never should be, if the operation were rightly performed), I cannot see the necessity of long strips of plaster, which cause tension; surely short strips will suffice to keep the edges together. It is important to leave spaces between the plasters for the exit of any discharge. In a hospital to which I was once attached, one of the surgeons (a highly educated and estimable gentleman), anxious to procure union by the first intention, was in the habit of completely covering the end of the bone with strips of isinglass plaster; and, in his cases, sloughing and other untoward results were decidedly more frequent than in those of his colleagues who left some uncovered spaces.

The sutures should be removed on the third day, at the latest. In a patient from whose jaw Mr. Benfield lately removed an epulis, he extracted the pins from the twisted sutures in the wound in the cheek, at the end of forty-eight hours; and, when one was extracted, a little pus followed. There was union by the first intention in every part of the wound. Had this pin, which did not appear to be exciting mischief, been allowed to remain, what would have been the result? That the inflammation which was present, as shown by the formation of pus, would, in all probability, have caused the edges of the wound at that point to have separated. This case shows how soon sutures may begin to act as foreign bodies to excite inflammation, "with which union by the first intention is incompatible"; and union having already taken place, if inflammation did occur, the new structure would, as you know, readily break down. I have had opportunities of comparing the practice of two surgeons attached to the same hospital on this point. One almost always extracted the suture-pins on the third day; and, in his cases, there was almost invariable union by adhesion, the exceptions generally being where there was some delay, and the pins were allowed to remain a day or two longer; but, in one or two of these cases, union was perfect, notwithstanding the delay. The other allowed the sutures to remain undisturbed for five or six days, unless some redness or other sign of inflammation supervened; and union by the first intention was the exception in his patients.

The modification of the flap operation which I should recommend is the following. By cutting from without inwards, make the semicircular incisions of the usual shape through the integuments down to the fascia: these superficial flaps should be separated from the subjacent muscles to a sufficient extent; and then the muscles may be divided by two incisions, so as to form flaps. The methods of operating which I have proposed would be more painful and more tedious than the ordinary plan; and these would have been great objections before the introduction of anæsthetics, when it was considered very important that a surgeon should be a quick operator.

There is another point in the treatment of stumps, after amputation in the thigh especially, which does not always receive the attention it deserves, and the importance of which was first impressed upon my mind by Mr. Paget. This is the advisability of carefully bandaging the stump from above downwards, the soft texture being at the same time drawn by an assistant over the end of the bone. This practice tends much to prevent protrusion of the bone by curbing undue retraction of the soft parts.

I shall next briefly advert to the "places of election" for amputations. Now, when art can do so much to supply the loss of a limb, it is the duty of a surgeon to know to what sort of stumps artificial members can be best and most usefully adapted. His first care, of course, is to save the patient's life; his second should be to leave him such a stump that, by the aid of the surgical mechanist, he shall feel the loss he has sustained as little as possible. As a general rule, the greater the length of the stump, the greater will be the steadiness and the comfort afforded by the artificial limb, and the greater will be the power exercised over it by the patient. In all injuries of the hand, I save as much as possible. I have treated compound fractures and dislocations of the fingers successfully, where they were almost completely separated. In similar accidents to the arm or leg, amputation would have been necessary, as the constitutional irritation and the purulent discharge would otherwise have killed the patients; but, after injuries to such small yet important members as the fingers, these need not be feared. If sloughing do occur, Nature unaided here is competent to effect amputation well. The importance of practising conservative surgery on the hand is shown by the following case.

John Porter, aged 17, a clerk at the Leicester Railway Station, was admitted an out-patient of the Leicester Infirmary on February 13th, 1856, with enlarged tonsils. About eighteen months previously, he sustained a severe injury of the right hand by the wheels of a railway carriage passing over it. Mr. Bullock, then house-surgeon to the infirmary, performed a conservative operation upon his hand, preserving the ring and little fingers only; the thumb, index, and middle fingers, with their metacarpal bones, being removed. The two fingers are very useful to him; he can write well by taking hold of the pen between them; and he states that he can do almost anything with them but lift heavy weights.

Amputation at the wrist-joint is a favourite operation with Mr. Thomas Wright, surgeon to the Nottingham General Hospital; and, during my residence there as a house-surgeon, he performed it twice with very good results. Both the patients had capital stumps, and retained as much power of supination and pronation of the limbs as before they lost their hands. In amputations of the forearm, as much as possible of the limb should be saved; and, to use the language of Mr. Gray, to whose work on *Automatic Mechanism* I am indebted for much

of the information I possess on this subject, "it should never be forgotten that the shortest or worst stump that can be made below the elbow is infinitely more useful to the patient than the best stump above the elbow; for no artificial joint is at all to be compared to the real elbow-joint."

As I have never seen Hey's or Chopart's operation performed, I shall pass on to Syme's amputation at the ankle-joint. This operation I have seen repeatedly done by Syme himself, and occasionally by others. When properly performed, and scientifically dressed afterwards, it is attended with most satisfactory results. The great danger to be dreaded is sloughing of the flaps, which we must guard against—

1. By taking care not to cut any of its vessels: and, with this end in view, the edge of the knife must be directed towards the bone while dissecting off the soft textures which form the flap. No opening should be made into it for the escape of discharges before they have formed, or for the removal of a portion to lessen its size. The latter object is best attained by commencing the lower incision, not at the centre of the malleolar projection of the fibula, but at its posterior border, and carrying the knife across the bone, slightly inclining backwards, and ending, of course, at the corresponding point of the inner malleolus.

2. By taking every precaution not to impede the circulation through the flap: and, with this end in view, it must be handled and sponged as little as possible, so as not to excite inflammation; the edges of the wound should be drawn together by interrupted sutures, with strips of wet lint only superimposed, and no plasters and bandages, which would cause pressure against the ends of the bones, impaired circulation, and sloughing.

The advantages of this operation are manifold. The lower surface of the flap, composed of the textures of the heel, are well accustomed to pressure; there is no troublesome retraction of the flap; the cicatrix is situated in front, and not beneath. Even where the ankle-joint is considerably diseased, this operation may be successfully resorted to; and, finally, the patient is very slightly maimed. A poor patient can have a circular boot, with a well raised heel, made by a common bootmaker, with which he can go about with little or no lameness or inconvenience; a wealthy patient can be supplied, by an ingenious surgical mechanician, with a boot so perfect as to render it difficult to discover, either by the patient's gait, or by looking at his feet, that he is not in full possession of those useful members.

In amputations of the leg, the usual site is about a hand's breadth below the knee, and the patient with the knee-joint flexed bears upon the artificial limb with the patella and upper part of the tibia. This practice is objectionable. It is well to remember that a bad stump below the knee is much inferior to a good stump above that joint, the rule regarding the elbow-joint being precisely opposite. The further from the trunk the safer the operation, is a dogma regarding amputations in which I believe there is much truth, but it is doubtful whether the comparative safety be owing to the removal of a smaller portion of the limb, or to the fact that the wound is smaller, because as the distance from the trunk increases, the size of the extremity decreases. Where practicable, amputation of the leg should always be performed at the upper part of the lower third, because there is sufficient room left for the formation of an ankle-joint in the artificial limb; the stump being long, affords a good lever for moving the artificial leg, and there is less danger to the life of the patient. Where it is impossible to save so much of the limb, we should amputate as near the lower third as possible, and never above the commencement of the upper third. Why never in the upper third? Because a properly constructed artificial leg cannot be advantageously applied. It may be said that poor patients must be satisfied with the common pin, and that amputation in the upper third of the leg leaves them a very useful stump. My answer is, that I have frequently seen poor hospital patients procure expensive and well made artificial limbs from the kind assistance of a master, or of the charitable in the neighbourhood, or of their relatives, or from their own earnings. To beautify ourselves as much as possible is a trait of our common humanity; and is it right or justifiable in a surgeon to inflict permanent deformity on a patient because it may be fancied he has not the means to procure a well formed artificial limb? Such a course, in my opinion, is wrong in all cases, and especially so in the manufacturing districts of the country, where we so frequently see men of wealth and influence who have risen from the poorest grades in the community.

According to Coulson, "amputation of the leg should never be performed upon children, but the lower third of the thigh unhesitatingly selected, for the very important reason that the amputated limb ceases to grow in uniformity with its fellow, and the patient is doomed to the additional inconvenience of having one knee-joint elevated perhaps some inches above the other, and imparting to his gait a peculiarly grotesque appearance."

Amputation at the knee-joint was revived some years ago by Mr. Syme; but the great objection to its performance is that there is no space left for the formation of a joint in the artificial limb. In most cases of disease, and in certain injuries of this joint, amputation is unnecessary, as by excision a most useful member may be preserved, far superior to any artificial substitute.

In amputations of the thigh, we should select a point at least five inches above the knee, so that space may be left for the artificial joint, and for reasons already adduced in all cases the stump is made as long as possible.

II. TREATMENT OF FRACTURES OF THE CLAVICLE.

I hold views somewhat peculiar regarding the treatment of fractures of the clavicle. The following quotation from Mr. Miller's work on surgery will show the orthodox plan. After stating that the sternal end of the broken bone remains *in situ*, owing to the action of the pectoral and sterno-mastoid muscles nearly neutralising each other, the bone being also steadied by the costo-clavicular ligament, and that the acromial portion is dragged downwards by the weight of the arm, and forwards and inwards by the action of the subclavius, the attachment of this muscle to the first rib being then the fixed point, he says: "The indications of treatment are plain, but unfortunately not very easily fulfilled. They are to raise the acromial portion to the same level with the sternal, to retain it there, and at the same time to keep the shoulder removed from the sternum, so as to prevent the displacement inwards, and consequent riding of the ends of the bone. Many and complicated are the means devised for this end." He then goes on to recommend the pad in the axilla, retained there by a shawl or large handkerchief, which is tied over the opposite shoulder tightly; this tends to elevate the shoulder, and consequently the acromial end of the clavicle, and this indication is further contributed to by a short sling well tightened over the elbow. The arm is next bound to the side, the humerus acts as a lever on the pad as a fulcrum, and extension of the clavicle is thus effected, preventing the riding of the ends of the bones. A figure of 8 bandage approximating the scapulæ, tends still further to secure extension.

This is all very well in theory, but when applied practically, what is the result? When there is much displacement, as there usually is when the clavicle is broken towards the middle, I have never been able, by following out these directions, or by any other plan, to brings the ends of the bone into apposition, nor have I ever seen any other medical man more successful. In the great majority of fractures of the clavicle, there is very little displacement.

In treating fractures of the clavicle, whether there exist much displacement or not, I merely loosely apply a figure of 8 bandage, and place the arm in a sling, supporting well the elbow. The bandage I apply as a *placebo* to satisfy the patient; as, if nothing were done, he would most probably place himself under the care of a quack. The bandage must never be applied tightly, because if, as usual, it be passed over the broken clavicle towards its acromial end, it causes or increases displacement; and if applied over the upper extremity of the humerus, it after a few hours slips and is of no service. The sling is useful, inasmuch as it supports the shoulder, and tends to prevent movement in the extremity. When there is much displacement, I enjoin rest in bed in addition to the sling.

I show you an ingenious piece of mechanism invented by the late Mr. Wilkinson, one of my predecessors as house-surgeon to the Infirmary, and used by him in these injuries. By means of its padded and concave shoulder straps, the scapulæ can be safely approximated, pressure being made upon the front of the shoulder joints and none upon the clavicles.*

In a case of fracture of clavicle with much displacement, lately under the care of Mr. Macaulay in the Infirmary, Wilkinson's apparatus was applied in the presence of Messrs. Paget and Macaulay, and after the straps were tightly drawn,

* Wilkinson's apparatus consists of an iron frame well padded, six inches square, with rounded angles, at each of which there is a buckle. The frame is placed on the back over the scapulæ, the shoulder straps attached to the buckles at the superior angles pass in front of the shoulders, where they are well padded and concave to admit the rounded upper extremities of the arms, they then pass under the armpits, and are fastened to the buckles at the lower angles of the frame.

the rising end seemed rather less prominent, but the patient at my evening visit begged me to loosen the straps, as he could no longer bear them so tightly buckled, and I was obliged to keep them so relaxed that I am satisfied he derived no benefit from the application. The method of treatment I adopt is attended with satisfactory results. I learned it from Mr. Wright, senior, of Nottingham, known to many of you as a deservedly eminent surgeon. I have been informed that the late Mr. Vincent, of Bartholomew's Hospital, followed the same simple plan; and Nélaton, the great French surgeon, in this fracture prefers Mayor's handkerchief to any other apparatus, dispensing with the use of Desault's pad, as he believes that where deformity exists, it is impossible to remove it by any treatment, and the only indication answered appears to consist in keeping the fragments motionless.

III. EXTRACTION OF CATARACT.

When both eyes are cataractous and equally affected, ought both to be operated on at the same time? To this question, says Mackenzie, "my experience leads me to answer in the affirmative, if division of the cataract is the operation to be performed; but if we mean to extract, I regard it as better to operate on one only, and watch the result before touching the other. Double extraction decidedly exposes the eyes to greater risk of inflammation. If we operate only on one eye and allow it to recover, we may possibly observe in the course of the operation and recovery some particulars which will be essentially useful to us in conducting the second operation, or will even lead us to select a different and more suitable mode of operating for the second eye. The patient, however, who has recovered from a first operation either well, or indifferently, or ill, is often unwilling to submit to a second. The confinement, abstinence and depletion, used after a fresh operation, sometimes cause the eye not operated on to fall so much back in the orbit that it is difficult to perform extraction on it."

I attach great value to any statement of Mackenzie's regarding ophthalmic surgery; but I believe, and I hope to be able to prove to you, that his opinions concerning the double extraction are erroneous. Every one who has seen many cases of disease of the eyes, must be aware of the great sympathy that exists between them, and I was taught to consider the extraction of both lenses at one sitting a most hazardous proceeding, inasmuch as if inflammation came on in one eye, the other would most probably become affected by sympathy, and that it was therefore advisable to allow some months to elapse between each operation. Being a firm believer in this doctrine, I was astonished and instructed by the following cases.

John Wood, aged 59, a framework knitter, had double extraction performed by Mr. Paget, on the 18th of January, 1856. One eye became violently inflamed and vision in it was lost, but in the other no unfavourable symptom appeared, and on the 4th of March he was discharged, able to read pretty well with the assistance of a proper glass. This case is published in detail at page 246 of the ASSOCIATION MEDICAL JOURNAL for 1856.

The next was an aged female inmate of the Leicestershire Lunatic Asylum, who had double cataract, and whose mental aberration was believed by Dr. Shaw and Mr. Buck to depend in a great measure upon the loss of sight. Mr. Buck, after a consultation with Mr. Paget, and assisted by him and myself, extracted both lenses by the double operation. I do not possess notes of the case, but I learned from Mr. Buck that one eye inflamed suppurated and vision in it was lost, but that the other progressed favourably, and she could see with it satisfactorily.

According to the views I formerly held, vision should have been lost in both eyes in each of these patients. It cannot be doubted that after a single operation inflammation would as readily have arisen, and loss of vision been the result in the the eyes which did badly, as after the double extraction; and as the untoward symptoms were confined in each case to one eye, the other not being sympathetically affected, no mischief was caused; on the contrary, it was fortunate for these patients, at least for the sane one, that the double operation was performed; because, had one eye been operated on in the orthodox mode, and that one happened to do badly, the man probably would never have consented to a second operation; and at this moment, instead of enjoying the power to read pretty well, he would have been helplessly blind.

My observations upon these two cases alone did not induce me to renounce my old notions. I learned from Mr. Paget that his father, whom he succeeded in the office of surgeon to the Infirmary, always performed double extraction; that he himself has always followed the same plan; and their combined experience extends over a period of sixty years. I have been told that his late colleague, Mr. Nedham, did, and I know that his present colleagues, Messrs. Macaulay and Benfield do, extract cataractous lenses by the double operation. These gentlemen are convinced that the greater risk of inflammation after double extraction is a myth—a plausible hypothesis not founded on facts; and the truth of which I believe has not been previously questioned in this country. In no other Hospital in the United Kingdom, as far as I have been able to ascertain, except at the Leicester Infirmary, and at the Birmingham Eye Institution since its foundation in 1823 by Mr. Hodgson, is it the rule to resort to double extraction. I know that it has been adopted occasionally by surgeons elsewhere; and it may be argued that if it had been found to be safe it would have become the usual practice long since. But this argument would be unjust; because, if this plan has not succeeded in patients under the care of other medical men, it must be on account of some difference in the mode of operating or in the after treatment, and it only shows the necessity for them to discover and to remove this difference, and then there can be no reason why they should not obtain results as satisfactory as have been obtained at the Leicester Infirmary. I should state that the late M. Roux always performed double extraction.

"That we should only operate on one eye and allow it to recover; as we may possibly observe, in the course of the operation and recovery, some particulars which will be essentially useful to us in conducting the second operation, or will even lead us to select a different and more suitable mode of operating for the second eye," is a reason assigned by Mackenzie for preferring the single operation. Are we not more likely to remember and be prepared to meet any peculiarities or difficulties encountered in operating on the first eye, if we proceed to operate on the second after a few minutes, instead of delaying for some months? We are not obliged to extract the lens from the second eye in the double operation, if after operating on the first, any other procedure be considered preferable; and I cannot see the propriety of watching the progress towards recovery of one before the other is touched, as, according to my observations, these cases do not take an unusually erratic or uncertain course, but the sequence of events in one patient closely resembles that in another, and we cannot be certain that the progress of the second eye will be similar to that of the first; on the contrary, it is more likely to be different, because after some months the patient's general health is likely to be somewhat changed, and the state of the second eye is occasionally altered materially.

I have now considered all Mackenzie's objections to double extraction. I confess I am unable to assign any reason why he should recommend the double operation for solution, as inflammation is one of the complications to be dreaded, and the wisdom of waiting some months to remember the particulars of the first operation, which will aid us in the second, will apply equally well to division as to extraction. It appears to me that if it be right to perform a double operation for solution, it is equally right to perform double extraction. Double and single extraction being equally free from danger, what are the special advantages of the double operation? The patient is only for half the time confined to his bed and to his room, and stinted in his diet; there is not the same risk of his remaining with imperfect or without vision, because if the first operation succeed well, or even indifferently, he will not unlikely be satisfied with what he has gained, and fearing the risk, refuse to submit to a second; or if extraction on the first eye fail, he would probably refuse to have the second operated upon; and we must not forget, as already stated, that "the confinement, abstinence and depletion, used after a first operation, sometimes cause the eye not operated on to fall so much back in the orbit, that it is difficult to perform extraction on it."

RAILWAY DISEASES. A curious series of facts has been published by Dr. Duchesne of Paris, to show that, as the result of railway travelling, engineers, stokers, etc., are subject, as a class, to weak sight, loss of hearing, rheumatic pains, especially in the right side of the body, numbness, or anæsthesia, etc. A good deal of such want of health is due to the sameness of their food and other bad hygienic conditions, added to a molecular change in various parts of the brain from the constant and oft-repeated minute concussions to which the brain is subject in the excessive speed of express trains, etc.—as in a speed of fifty or sixty miles per hour.

Gulstonian Lectures:

ON

DIABETES AND SACCHARINE CONDITIONS OF THE URINE.

DELIVERED AT THE ROYAL COLLEGE OF PHYSICIANS, FEBRUARY 25TH, 27TH, AND MARCH 4TH, 1857.

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LECTURE III.

MR. PRESIDENT AND GENTLEMEN,—Towards the close of my last lecture, I endeavoured to bring under your notice the principal theories which have been advanced in explanation of the real nature of saccharine diabetes, and gave the various arguments which have been employed in support of and in opposition to each. I likewise endeavoured to present a short sketch of the important researches of M. Bernard upon the subject of glycogenesis: I showed you that sugar was constantly generated in the animal economy, and that the *liver* was the organ destined to perform this function; that this sugar-formation was entirely independent of the *nature* of the food, and even, for a time, irrespective of its exhibition. The experiments I then mentioned were, I believe, quite sufficient for the demonstration of this fact. I also stated that the function of the liver was completely under the influence of the nervous system; and that, when the latter was cut off, it entirely ceased, and sugar could no longer be detected in the organ. I likewise mentioned that irritation of certain portions of the nervous system, as the floor of the fourth ventricle, by exalting this influence for a time, led to an increased formation of sugar by the liver, and the consequent impregnation of the whole of the blood with this principle, thus causing its subsequent elimination by the kidneys; or that, in fact, artificial diabetes could be thus induced in any animal, even in one living on a purely azotised diet.

Before proceeding with this part of the subject, I should state that, in health, sugar is always found in the blood of the hepatic veins, and in that portion of the inferior vena cava between the entrance of these veins and the auricle, also in the right side of the heart, and in the pulmonary arteries; that, in the intervals of digestion, the remainder of the blood is free from this principle; but that, during full digestion, the amount of hepatic sugar is so much increased that the blood, even after it has passed through the lungs, still contains a notable quantity, yet insufficient to cause its excretion by the renal organs (for it has been shown experimentally that a certain amount is necessary in order that this should ensue). In diabetes, however, the case is altered, and sugar can be distinctly detected in the blood from the arterial and venous systems, although sometimes it exists in most minute quantities when digestion is not going on; and my friend Dr. Parkes has in one instance found it altogether absent under these circumstances.

From the experiments of Dr. Pavy, it would seem that the liver sugar is chiefly destroyed or converted into some other body (possibly lactic acid) in the *pulmonary* organs; but that that which escapes into the arterial and venous systems gradually undergoes change, which in the portal system becomes rapidly completed; and that the presence of oxygen is not essential for the transformation, as it is found to occur when an animal is made to respire hydrogen gas in place of atmospheric air.

M. Bernard has, within the last few days, proceeded a step further in his investigations upon this subject, and has obtained from the livers of animals a substance which, by a species of fermentation, is convertible into sugar; and this glycogenic principle possesses properties which give it peculiar interest both to chemists and to physiologists.

It will be remembered that, when a liver is thoroughly washed, so as to remove all traces of sugar from it, saccharine matter is again formed after a short time, simply by exposure to the air, and totally independent, therefore, of the influence of vitality. It has now been shown *how* this occurs; that it is from the presence of a peculiar matter in the substance of the liver, which is not removed by washing with *cold* water, and which, under the influence of the animal ferment in the organ, gives rise to the production of sugar; and that it is this ferment, and not the peculiar sugar-forming principle, which becomes injured or destroyed by heat; the latter being simply dissolved by the agency of boiling water, which can be made use of for the purpose of extracting it.

The following is a sketch of the mode of proceeding in order to obtain this sugar-forming substance. The liver should be perfectly fresh, and still warm and bleeding, and taken from a healthy animal immediately after death. It is of no moment whether the animal has been fed on an exclusively animal diet or not: in fact, the nature of the food does not influence the result. The organ should be cut into thin slices, and immediately thrown into water which is kept constantly boiling, in order that the tissue may be at once coagulated, and the sugar-forming substance therefore not left in contact with an active ferment for a sufficient time to cause its change into sugar. The pieces of liver should be afterwards bruised in a mortar, and the whole kept boiling for about three-quarters of an hour or an hour; the quantity of water being just sufficient to cover the substance. By this means, a concentrated decoction of the glycogenic principle is obtained. By afterwards straining through a linen cloth, and pressing the boiled tissue, and then passing the whole through a filter, an opaline-looking liquid is obtained, which, on the addition of four or five times its volume of strong alcohol, gives rise to an abundant flocculent precipitate, of a yellowish white colour, consisting of the glycogenic substance, with traces of sugar, bile, and some unknown nitrogenous matters. This precipitate, when thrown upon a filter, frequently washed with alcohol, to separate the above mentioned impurities, and afterwards dried, has the appearance of a greyish gummy substance, possessing the property of redissolving in water, and of being again entirely precipitated by strong alcohol. This matter can be further purified by being dissolved in a boiling concentrated solution of potash for a quarter or half an hour; afterwards thrown down by the addition of a large quantity of alcohol, and subsequently washed with cold water; and the trace of adhering carbonate of potash can be got rid of by redissolving in hot water, saturating the carbonate of potash with acetic acid, and again precipitating with alcohol, and drying.

The properties of this substance are the following:—It is starchy in appearance; without odour or taste; impressing the tongue with a sensation similar to that produced by starch; it is neutral in reaction; it dissolves or becomes suspended in water, to which it imparts an opaline appearance; it gives, with iodine, a tint varying from a dark violet to maroon red, seldom quite blue; under the microscope, it exhibits nothing characteristic; heated with soda-lime, it emits no ammoniacal fumes, showing the absence of nitrogen; its solution does not affect the copper tests, nor does it undergo the vinous fermentation with yeast; it is precipitated from its watery solutions by subacetate of lead, by animal charcoal, and by alcohol, in the latter of which it is completely insoluble. The substance has been found to possess other properties which closely ally it to hydrated starch, as all the circumstances which operate in converting this latter into dextrine and glucose sugar are able to produce the same change in the former; such as prolonged boiling with weak mineral acids, the action of vegetable diastase and analogous animal ferments, as the pancreatic juice, saliva, or blood. After such change, the solution is readily acted upon by the copper tests, and also by yeast. The modification in the principle produced also by torrefaction, and by the limited action of ferments and mineral acids, resembles in all respects the dextrine obtained from starch, being insoluble in alcohol, not affected by iodine, incapable of reducing the salts of copper, and of fermentation with yeast, and turning to the right the plane of polarisation of a beam of polarised light.

From these experiments of M. Bernard, it appears perfectly established that the livers of all animals, even those of dogs, fed *exclusively* on meat, possess the power of forming a substance analogous to vegetable starch, which is capable of being afterwards changed into dextrine and sugar. The *formation* of this substance would seem to be a vital act, slow but constant in its operation, as is the phenomenon of nutrition. The *change* into dextrine and sugar appears a purely chemical act, and able to be accomplished quite independently of vitality.

Having given a short account of the principal facts recently brought to light, as far as they pertain to our subject, I will now endeavour to show what, if any, support they receive from morbid anatomy and clinical observation.

The liver has often been noticed, at the *post mortem* examinations of diabetic patients, to be full of blood; the congestion hepatic in character. Sometimes the weight of the organ is much above the average: for example, M. Bernard relates one case in the practice of M. Rayer, in which the liver was found

much hypertrophied, almost twice the average normal weight. I am not aware, however, that any constant and characteristic change in this organ has been observed; for it is not uncommon to discover the alterations I have now mentioned in subjects who have died of other diseases, unattended with saccharine urine.

The amount of sugar in the livers of diabetic patients who have died suddenly has not been found greater than after similar deaths occurring to previously healthy subjects. I allude to the percentage amount: of course, where the organ is hypertrophied, the total quantity will be increased.

With regard to the existence of this principle in other tissues and fluids, I may remark that, after sudden death, all the tissues and fluids of the body give evidence of the presence of sugar, and not unfrequently in large quantities. I have obtained it from the brain, and from the fluid of the ventricles, also from the blood, as well as from the liver. When, however, death takes place slowly, we may be unable to discover its presence in any of these organs or fluids.

Since the remarkable experiment of the artificial production of saccharine urine by irritating the floor of the fourth ventricle has been made known, many observers have sought in their *post mortem* examinations of diabetic subjects to ascertain whether this portion of the nervous system exhibits any morbid appearance. In two or three instances, I have been unable to detect any; but I have heard of others being more successful. In one case related to me, there was increased vascularity of the floor of the ventricle, but not corresponding to the supposed root of the eighth pair of nerves; in a second, there was likewise a similar condition. We have, however, as yet far too few reliable data to offer any opinion on this point; but I think we may fairly conclude that, although morbid anatomy has shown nothing which would appear to militate against M. Bernard's view of the origin of diabetes, still, at the same time, it has not elicited any facts which can be looked upon as strongly in its favour.

Is there any evidence in support of this view derived from clinical observation? Diabetic patients often suffer from some hepatic derangement, as indicated by the want of biliary colouring matter in the fæces, and also by some fulness over the right hypochondrium, with tenderness, and sometimes pain; not unfrequently distinct enlargement of the liver can be ascertained to exist; but these symptoms are by no means constant, and, in fact, are not unfrequently absent during the whole course of the disease. The same may certainly be said with regard to such phenomena as are referrible to the nervous system, with the exception of the condition of the mental faculties referred to in my first lecture, and which I consider to be secondary to the morbid condition of the blood, and to the general exhaustion produced by the affection.

The chief arguments in favour of Bernard's view are derived from the investigation of some of the causes of the disease, and more especially from the physiological researches we have already detailed. That *injuries* of portions of the nervous system will produce saccharine urine I have already stated; and in support of the opinion that diabetes appears to be occasionally caused by mental influence, I have also brought some evidence. Dr. Prout laid stress on this point; for, in alluding to the immunity which the lower animals are supposed to enjoy, he remarks: "Can the exemption be referred to the absence of that fertile cause of bodily disorder in human beings, the influence of *mind*?" If the influences which I have classed under the third head in the etiology of this affection can really be proved to be exciting causes of the disease, it would be much in favour of the opinion that it is, at least sometimes, due to an over-exalted sugar formation in the liver; but, as yet, there is no very great amount of proof of their real efficiency, though the probability that they are at times operative is very great. I have already mentioned that a gentleman has assured me that he can produce saccharine urine at will, by inducing a fit of indigestion; and I may also remark, that my friend Dr. Harley, several years since, when residing in France, published a short paper, demonstrating that saccharine impregnation of the urine occurred in animals when irritating substances were injected into the vena portæ. The substances employed by this gentleman were irritants, such as alcohol, ether, chloroform, and ammonia; with all, the effect was the same. From the results of his experiments, Dr. Harley is led to believe, that diabetes may be produced artificially by the introduction of stimulants into the vena portæ, and that they act by irritating the branches of the pneumogastric nerves, whence the impression is transmitted to the nervous centres, and again to the liver through the splanchnic nerves. More recently, I believe, M. Bernard has produced a similar result by injecting these matters into the duodenum itself.

If we regard diabetes as depending simply upon an increase of the glycogenic function of the liver, then it becomes easy to understand why a diabetic patient, even on a purely animal diet, may still pass a considerable quantity of sugar in the urine; a fact we shall soon prove to be well established, but difficult to explain on most of the other hypotheses which have been offered. But if M. Bernard's idea of the liver possessing the power of converting all the saccharine matters received by the portal blood into fat, be correct, then a simple increase of the sugar-forming property of the liver would not account for the great increase of this principle when a diabetic patient is allowed amylaceous substances in his food.

Lastly, on carefully examining all the facts which have been brought forward, we may, I think, be able to form some idea of what diabetes really is, and assuredly of what it certainly is not. In the first place, we have abundant evidence to prove that it is not a *renal* affection, and that any alterations found in the *kidneys* are simply secondary to the great increase of their function which the morbid state of the blood calls forth. The same applies, in an equal degree, to the opinion of diabetes being primarily an affection of the stomach; for we have had complete demonstration that the liver in health is the great sugar-forming organ of the body, a fact *unknown* at the time when the disease was referred directly to the stomach.

As to diabetes being dependent, not upon any increased formation of saccharine matter, but on an imperfect destructive power existing in the blood, although most of the phenomena are explainable on this hypothesis, still it is by no means satisfactory, as at present there is no proof of this absence of power to effect the ulterior changes. And certain facts, besides those which I have already brought forward, appear to militate against the existence of this deficiency; for there is no marked difference in temperature between diabetic and other subjects; and, in certain experiments made some years since by Professor Graham, no peculiarity was discovered in the amount of carbonic acid which they expire. Upon the whole, I should be disposed, at present, to regard diabetes as due, in the first place, to an increased formation of sugar by the liver, produced by some alteration of function in the organ; and at the same time that its glycogenic power becomes abnormally increased, I should consider that it loses the property, which exists in health, of arresting and changing into new principles (as fatty substances, etc.) those saccharine matters which are brought to it by means of the portal blood. If we view diabetes in this light, we shall, I believe, be able to explain all the phenomena which the disease presents, at the same time I am aware of no facts which can be brought forward in opposition to it. It explains, for example, why sugar can generally be detected in the urine of diabetic patients, when subjected to the most rigorous animal diet, and, at the same time, why amylaceous matters usually so greatly augment this saccharine impregnation.

THERAPEUTICS OF DIABETES.

We have now to treat of the last division of our subject; namely, the therapeutics of diabetes.

As the nature of the disease was but ill understood till within the last century, the treatment was necessarily very indefinite. Dr. Mason Good thus sums up: "The intentions in the early plans was to invigorate the debilitated organs, whether local or general, and to give firmness and coagulability to the blood. This was the practice of all the Greek physicians, and it regulated the practice to a very late period in the history of the disease." "The vital intention," says Dr. Willis, "is performed by an incrassating and moderately cooling diet; by refreshing cordials, and by proper and seasonable hypnotics." Hence agglutinants of all kinds were called into use; as tragacanth, gum arabic, and the albumen of eggs; and these were united with astringents, as rhubarb, cinnamon, and lime water, with or without an anodyne draught at evening as might be thought prudent. Sydenham carried the tonic and cardiac part of this plan considerably further than Willis; for while the latter chiefly limited his patients to milk or a farinaceous diet, the former allowed them an animal food with vinous beverage. "Let the patient," he says, "eat food of easy digestion, such as veal, mutton, and the like, and abstain from all sorts of fruits and garden stuff, and at his meals drink Spanish wine." This plan continued in force until within a comparatively recent date; the principal drugs made use of being the various bitters and stimulants, as bark, simaruba, myrrh, assafœtida, valerian, camphor, cantharides, and vege-

table and mineral astringents, as kino and catechu, opium, chalybeates, copper salts, and alum.

To attempt to detail the various plans of treatment founded upon the many opinions which have, from time to time, been held as to the nature of diabetes, would occupy the space of many lectures, and be, I fear, not only uninteresting, but unprofitable. I shall, therefore, confine my remarks to the most important methods which have been advocated, and more particularly to such to the real value of which I can personally bear testimony.

Those who have had experience in the treatment of diabetes at the present day must allow that the *diet* is the most important point to which attention should be directed; and that, when this is neglected, all our efforts may prove ineffectual even to relieve the sufferer. Before, and for a long time after, the discovery of the saccharine condition of the urine in cases of diabetes, no particular regard was paid to the composition of the diet, no knowledge existing of the easy conversion of one principle into another; hence we find even Willis recommending to his patients a milk or a *farinaceous* diet. It was only at the commencement of the present century that the dietetics of diabetes were at all insisted upon. For some years Dr. Francis Home had shown the value of an *animal diet* in this affection: but it is to Dr. Rollo that the medical profession is especially indebted for fully pointing out and insisting upon its importance; and since the publication of his treatise the plan of treatment by an animal diet, more or less exclusive, has been followed both in this country and abroad. After Rollo, the chief advocates who have published their opinions have been Drs. Bardsley and Christison, in this country, and on the continent Nicolas and Gueudeville, MM. Dupuytren and Thénard, and M. Bouchardat.

I shall at once proceed to point out the value of a strict dietetic plan of treatment, and show the amelioration of the subjective symptoms which the patient then experiences, as also the improvement which it effects in the condition of the renal secretion.

The reason why a strictly animal diet has been proposed and advocated is very simple; namely, that by such the patient is made to abstain from all substances which can *readily* be converted in saccharine matter; and, although we have seen that the liver most certainly possesses the power of forming sugar from azotised principles, yet it is only within the last ten years that chemists have allowed the possibility of such conversion. Notwithstanding that the principle upon which this plan is founded may not be altogether quite correct, still the practical result has been in the highest degree satisfactory. As far as my experience enables me to speak, I can state that the good effects which have resulted from following this treatment have always been of the most marked character, and far beyond the possibility of being attributed to mere chance or accidental circumstances. I say always; for I believe I can positively assert that in no one case have I found a patient who did not derive considerable benefit, although he may have subsequently succumbed from the occurrence of secondary diseases. The amelioration usually takes place within the first few days, and is manifested by the diminution of the thirst, usually of the appetite also, if previously voracious; the tongue assumes a more healthy character, the skin becomes less harsh, the strength and weight of the patient augmented, and the urine very much diminished in quantity. I have many notes which most forcibly illustrate the truth of this statement; and at the risk of being thought somewhat tedious, I must bring a few of these under your notice.

I may remark that these results have been obtained from cases under my charge within the wards of the Hospital, and that the greatest care has always been exercised in order to obtain accuracy.

In the first case, the patient, P. C., a man aged 32 years, before change of diet, exhibited the following symptoms: Dry and harsh skin; intense thirst; sweet and sometimes acid taste in mouth; tongue brown, furred at the back, and covered with a tenacious mucus; appetite often ravenous; uneasiness at epigastrium, with some little tenderness over that region; bowels confined, and fæces hard and dry in character; great fatigue on exertion; pulse 84, small, and easily compressed; weight eight stone four pounds; no cough. After he had remained in the Hospital several days, on the ordinary extra-full diet and a pint of porter, with other bread, etc., procured from different patients, and taking no medicine, saving a little camphor mixture, the quantity, specific gravity, and weight of sugar passed for five days were such as I enumerated in my first lecture, the average of the five days (there being no great differences between the mean and extremes) being as follows:—

Average daily quantity of urine, 354 fluidounces.
Specific gravity of ditto, 1032·5.
Daily weight of sugar thrown out, 11953 grains, or 1lb. 11oz., 140 grains, avoirdupois.

The patient was then somewhat restricted as to amylaceous matters, being allowed meat, eggs, captain's biscuit (about three ounces), and a large bunch of greens, with a little whiskey. He was found, however, to procure some bread, although none was allowed. At the end of a week the note was: Some slight perspiration, less thirst, appetite not so ravenous, tongue cleaner, pulse 84.

Average urine of the last five days, 172 fluidounces.
Specific gravity of ditto, 1033.
Daily average of sugar, 4644 grains, or 10oz., 269 grains.

The patient was then placed nominally on a purely animal diet, and in a private ward: but being suspected of stealing small quantities of bread and vegetables, he was allowed two ounces of crust. The next four days gave the following averages:

Average quantity of urine, 191 fluidounces.
Specific gravity 1033.
Daily average of sugar 5484 grains, or 12oz., 234 grains.

The patient being next voluntarily placed under lock and key, as it was evident from the last result that he did not keep strictly to his diet (which, in fact, he himself confessed), and the two ounces of bread absolutely the only vegetable food allowed, the result was,

Quantity of urine 110 fluidounces.
Specific gravity of ditto, 1035.
Quantity of sugar, 2673 grains, or 6 oz., 48 grains.

The next five days, he being still under lock and key, and every one searched who entered the ward; and the diet being *purely* animal, consisting of meat, eggs, milk, beef tea, tea, and a little brandy, the result was,

Average quantity of urine, 114 fluidounces.
Specific gravity of ditto, 1029.
Quantity of sugar, 1901 grains, or 4 oz., 151 grains.

For the three following days after, he being released from his prison, but strictly enjoined to adhere to the prescribed diet, the average results were nearly the same; viz.,

Quantity of urine, 100 fluidounces.
Specific gravity of ditto, 1032·9.
Quantity of sugar, 1679 grains, or 3 oz., 367 grains.

In this individual, therefore, we observe that, within a few days, simply by means of dietetic treatment, we were able to diminish the quantity of urine from 354 fluidounces, to about 100 fluidounces, and the daily amount of sugar from 26 ounces to rather less than 4 ounces avoirdupois. We observe, however, that the specific gravity was not much altered, but on the whole a little decreased. Can anything be more conclusive than this result? Yet it is, I believe, one which can generally be obtained; and did time allow I could, from my note books, bring before you other evidence equally convincing, obtained from numerous patients, in whom I have made observations more or less similar to those just detailed. The note of the general state of the patient at the time when the last results were obtained, is as follows: Much improved in appearance; tongue clean, less red; not much thirst; perspires pretty freely; pulse 80: he can now lift up a hundred weight; not long since he could scarcely move a quarter.

To be more convinced that diet, and diet only, produces these results, let us look at the effect of a speedy return to mixed aliments in another case of this disease, where I purposely made the change.

G. B., aged 25, a man who had suffered from well marked symptoms of diabetes for about seven months, when taking the ordinary diet of the hospital, consisting of meat, bread, potatoes and milk, passed, as the average quantity of his urine, for seven days, 267 fluidounces, of specific gravity 1042. During another five days, with meat diet and bran cakes, taking also some cod liver oil and very small doses of tincture of opium, the average quantity of urine was 91·5 fluidounces, of specific gravity 1038. On a return, however, to the ordinary diet of the hospital, the oil and tincture of opium remaining the same, the average of seven days was as high as 216 ounces, of specific gravity 1036. In this patient the symptoms kept pace with the alteration in the urinary secretion; for at the end of the first period, the tongue was red and covered with viscid mucous, and the thirst intense. At the termination of the second period, the thirst was much diminished, the tongue more natural, and the appetite less ravenous, there was also a

distinct improvement in strength; but a few days after again partaking of the bread and potatoes, all the characteristic diabetic symptoms returned.

[*To be continued.*]

Reviews and Notices.

The Sanitary Review and Journal of Public Health: including the Transactions of the Epidemiological Society of London. Edited by Benjamin W. Richardson, M.D., L.R.C.P. London: Richards. April 1857.

This is a continuation of the *Journal of Public Health;* the title having been altered in consequence of mistakes having sometimes arisen, from another periodical, of a different character, bearing a very similar name. The number before us is by no means inferior to any of its predecessors in interest.

The first article is on Medical Scientific Reform; in which the writer—the editor, we presume—points out the reforms needed (especially in the way of simplification) in our nosologies, in our physiology, in descriptive anatomy, in the *Pharmacopœia*, in therapeutics, and in pathology.

Mr. Alfred Haviland gives an interesting article on the Plague at Dunster, in Somersetshire, in 1645. During the prevalence of the disease, the inhabitants of a long street "made an attempt to shut the enemy out by making all their houses communicate, so as to avoid the necessity of going into the street." Doors were made between the different houses, some of which still remain. The readers of Sydenham will remember that it was at Dunster that the cases occurred which are recorded by that writer as illustrating the good effects of copious bleeding in plague.

Three writers, Dr. Ayres, Dr. Hawksley, and Mr. Nicholas, expound their views as to the best method of solving the question—What is to be done with the sewerage of London? Dr. Ayres is for returning to a properly regulated system of cesspools; Dr. Hawksley proposes a plan for receiving the contents of water-closets into a receptacle from which the fluids should be drawn off, while the solids are retained and deodorised; and Mr. Nicholas is of opinion that a continuous and sufficient water-flow is what is wanted for the proper drainage of London.

The Report of Dr. Waller Lewis, on the Health of the London Postmen, has already been referred to in this Journal. The remaining original communications are, Notes on Vegetable Poisons (Hemlock), by Dr. Pickells of Cork; the completion of Mr. W. I. Cox's paper on the Diseases of Colliery Operatives; a collection, by Dr. Winn, of Notes from Evelyn's Diary on the Meteorology and Epidemics of the seventeenth century; and the Graveyard Statistics of Warwick and Leamington, by Dr. John Webster.

In the department of Sanitary and Social Science is commenced an able and elaborate report on the sanitary condition of Huddersfield. The points here described in regard to this town are: its geographical and geological features; water supply; increase of population; and pauperism.

The occurrence of epidemic and endemic diseases in thirty-nine towns and districts is chronicled for the months of December, January, and February. It is satisfactory to notice that the number of observers goes on increasing, and that nearly all the original staff have continued their labours steadily. Much valuable information is contained in this part of the *Sanitary Review;* and, if they are continued as at present, the reports will hereafter serve as the basis of some important deductions.

The Epidemiological Society publishes this quarter an excellent paper by Dr. W. R. E. Smart, of the Royal Navy, on the Principal Features of the Climate of the Crimea, and its Effects on Health, as observed during the First Year of the Occupation by the Allied Forces.

This is a mere outline of the principal contents of the *Sanitary Review:* those who wish for further information on the various subjects must "inquire within", where they will find much that will repay them for their trouble, and that will, we think, lead them to agree with us that this valuable periodical is not only keeping its ground well, but is steadily advancing in merit.

The Change of Life in Health and Disease. A Practical Treatise on the Nervous and other Affections incidental to Women at the Decline of Life. By Edward John Tilt, M.D., Senior Physician to the Farringdon General Dispensary and Lying-in Charity; etc. pp. 307. London: Churchill. 1857.

This is an expansion of a small work on the *Diseases of the Change of Life,* published some years ago by Dr. Tilt. Having devoted his special attention to the subject, and having moreover enjoyed much experience, he now comes again before the profession with a work which is likely to be of some value. But, while we thus give a general verdict in favour of Dr. Tilt, we must say that in one of the phases in which he appears, he shines with a very obscure light. We allude to the physiological portions of his work. The science of physiology is already hampered enough with incorrect observations, and illogical deductions; and Dr. Tilt certainly goes farther than many will be disposed to follow him. For instance, he "takes it for granted that the solar ganglia are an important centre of nervous power, capable of reacting on the various parts of the body by some subtle invisible fluid analogous to electricity, which I shall speak of as ganglionic nervous fluid or aura"? and in describing a phenomenon which he calls "nervous heat" (as exemplified by blushing), and referring it to the operation of the ganglionic nervous system, he considers his observations to "confirm the assertion of the older physiologists; for Hippocrates noted shivering and an unusual development of caloric to be a sign of conception, Galen considered the reproductive organs to be a source of caloric for the system, and Brongniart discovered that even in plants reproduction is attended by an appreciable increase of their usual temperature"!

This is questionable physiology; but, beyond it, there is much to commend in Dr. Tilt. He is a laborious collector of the statistics of his subject; and hence his book is enriched with numerous tables relating to the periods of commencement and termination, and the duration of menstrual function, and to the relative frequency of various diseases in women at the change of life. In his description of the symptoms and treatment of the diseases occurring at the change of life, Dr. Tilt has judiciously commented on the observations made by other British and by continental physicians, so that his work may be regarded as an epitome of all our knowledge on the subject—the author's original observations forming the basis. The value of the work is increased by the carefully reported histories of above fifty cases.

Advising our readers to turn over rapidly the few pages containing Dr. Tilt's physiological fancies, we recommend the rest of the book to their careful perusal, as well calculated to afford them guidance in regard to a class of cases which are frequently troublesome to the practitioner.

A Dictionary of Practical Medicine: comprising General Pathology, the Nature and Treatment of Disease, Morbid Structures, etc. Part xviii, being Part ix of Volume iii. By James Copland, M.D., F.R.S. London: Longmans. 1857.

The recently issued part of Dr. Copland's *Dictionary* contains the termination of the article Tubercular Consumption, the articles Tympanitis, Urinary Bladder, Urine and its Deposits, Urticaria, Uterus and Appendages, Vaccination, and Vagina and Vulva (in part). We observe with much satisfaction an

announcement that the concluding part is in the press; and that it will contain an arranged Table of Contents, with an Index of the individual topics. The profession may therefore look forward with hope to a speedy completion of this *magnum opus*.

The Asylum Journal of Mental Science.

This interesting journal, which is confined strictly to the speciality of which it treats, performs a somewhat analogous function to the Association of Medical Officers of Asylums and Hospitals for the Insane, that this Journal does to the British Association. As a means of communication between a very important body of specialists, it must prove invaluable, isolated as those gentlemen are, and possessing few means of otherwise communicating with each other. Dr. Bucknill, the editor, contributes an elaborate and able article on the Pathology of Insanity; and also a very sensible paper on a subject but ill understood—Asylum Architecture and Arrangements. Dr. Bucknill is a decided opponent of overgrown asylums, and justly advocates their restriction to two stories in height—a limitation once favoured by the commissioners, but, for reasons unknown to us, no longer enforced by them. The Lectures of Dr. Daniel H. Tuke, on the Various Forms of Mental Pathology, delivered in the York School of Medicine, and now publishing in the *Asylum Journal*, are admirable contributions to mental psychology; and we only regret that similar lectures are not delivered in every school of medicine in the kingdom.

British Medical Journal.

SATURDAY, MAY 2nd, 1857.

SUPERSTITION, WHERE DOES IT END?

It is clear, from the dropping fire kept up in the *Times* by country correspondents, that the public wish to know more about what it would seem to think the resurrection of an old and long buried superstition. "Are we in the age of King James, or in that of Queen Victoria?" exclaims the believer in the progress of the nineteenth century. And truly a town-bred man can scarcely credit the fact, that "a wise man" dwells in nearly every village, and that witches and wizards are still, in the belief of the country folk, as plentiful as blackberries. The letters which appear from day to day in the *Times*, describing the bewitching of farm stock, the carrying off of wives through the air on broomsticks by the agents of the Prince of Darkness, and a thousand other vagaries of this nature, startle the reader, and seem as much out of place beside ordinary humdrum ideas, as a piece of old tapestry would round the silks and tabarets of our drawing-rooms. Those who know the country are startled by no such revelations; the peasant-mind, they are well aware, is not much advanced from the condition it was during the Middle Ages: what they may justly be astonished at, and which all psychologists must agree is a singular and portentous phenomenon of the present century, is the monstrous gullibility of the higher classes of the country, and the general prevalence of a desire to follow new lights among all classes, quite regardless of all consequences. Can educated men forget, without mingled shame and indignation, that the breath of fashion has scarcely grown cold upon table-turning and spirit-rapping? Can the clergy—that class which prides itself upon being the best educated portion of the community—obliterate the fact that two of their body, highly respected among their respective flocks, printed and published pamphlets, in which they endeavoured to prove that the devil actually possessed *tables*, and gave responses to the questions of any idle rapper, with the purpose, of course, of destroying immortal souls?

These things are but matters of yesterday, but they seem to be already forgotten in the ever changing kaleidoscope of the world. We thought that, perhaps, this fever was over, and that the fashionable world was about to return to its senses; but a little paragraph, which has been going the round of the Parisian papers, convinces us that the evil lies deeper at the root of the mind-movement of the age, if we may use the term, than we had imagined. The Empress Eugenie has been so profoundly moved, it appears, by the manipulations of a certain Mr. Hume (who has the power, it is asserted, of showing distant events and persons in a *large mirror*), that the Emperor has banished him from the capital. Here, then, is a fresh ball set a rolling, and we may expect ere long to find the place of all effete Mesmerists and electro-biologists taken by a new set of impostors, each with his magic mirror. Well may the philosopher, peeping for the loopholes of retreat, inquire what advantages the favoured of the land possess over the simple peasant, and scornfully ask if station, birth, and opportunities are of no more avail than to plunge their possessors into a darkness only different in kind to that which possesses the clodhoppers of the fields. The lady who believes that some spiritual essence, beyond earthly comprehension, streams at the ends of the languishing young curate's fingers, as he makes his mesmeric passes, would laugh immoderately at the idea, that old Gammer Gurton could make the colt go home, or that she could track, with a fiery dog, the object of her dislike. Yet, what is there more absurd in the one belief than in the other? Why should we condemn Betty Smith because she pretended that she had seen Old Dame Switchem talking to her familiars in the shape of mice (*vide Times*), whilst we have nothing but interest and sympathy for a crowned head, who pretends—or, at least whose hysterical folly leads her to believe—that the future is to her unveiled, and that she can look into futurity through the instrumentality of a magic mirror?

Truly, if we try the social scale from top to bottom, we shall find that the love of the marvellous is confined to no degree or station of life. If we may claim any exemption at all, it must be for scientific men. It is rarely that we find that those well, but not exclusively versed in the physical sciences, fall dupes to the enormous impostures which we see every day prostrating the ill trained intellects of fashionable society. Before the simple scientific rebuke of Faraday, table-turning fell dead at once. In every circle we find the scientific man, and that scientific man generally the medical attendant, raising his voice against every new delusion which, like swallows at the coming of spring, seem to be thronging of late years upon us.

The conclusion we draw from this fact is, that, in any new scheme of education which may be promulgated for the benefit of the people, and for the especial punishment of quacks of all kinds,—witches, spirit-rappers, and magic mirror workers included,—a large share of physical science should be insisted

upon. We know nothing so destructive to ghosts and spirits of all kinds as a knowledge of chemistry. At present, of all educated persons, the clergy are most liable to be imposed upon by spiritual quackeries, and for precisely the reason that the physical sciences have not been studied by them; and consequently they are entirely, and in most cases irremediably, one-sided men, living in a spiritual world of their own, entirely unchecked by that storehouse of positive knowledge given to us by the inductive philosophy.

THE WEEK.

Dr. Shapter of Exeter has published a letter, addressed to Sir John Duckworth, President of the Devon and Exeter Hospital, on the exclusion, by the statutes of the hospital, of practising medical men, being donors and subscribers, from the committee of the institution. We were not aware that such a regulation existed in any of our country hospitals; but it does exist in *three;* and here is the rule in the Devon and Exeter Hospital: "No practising Physician, Surgeon, or Apothecary shall be a member of the Committee, unless he be an Honorary Governor." The exception in the latter part of the rule admits to a seat in the committee the physicians and surgeons to the hospital of twenty years standing, who, on resignation, have been elected consulting physicians and surgeons, and who may, under certain conditions, be appointed honorary governors. But all other medical men, who may contribute subscriptions or donations to the funds of the hospital, must not be members of committee; while this body may consist of persons following any other trade, profession, or calling whatever. Really the wisdom of the managers of the Devon and Exeter Hospital can scarcely be surpassed. The prudence which dictates the exclusion of the visiting physicians and surgeons from the committee of a hospital, is not to be compared with the profound sagacity which excludes *all* members of the medical profession.

Dr. Shapter says, that the practice of the Devon and Exeter Hospital is not supported by analogy.

"It would strike one as sufficiently absurd, if a prominent statute of a legal institution were to be, that practising lawyers should be excluded from all regulation of its affairs; or if that of a church institution should declare officiating clergymen to be incompetent to sit upon its committees; and yet this course has been pursued in the case of a medical institution, as against medical men."

Looking to the question also as a matter of policy, Dr. Shapter asks:—

"By thus enacting a law whereby medical men are deprived of the privileges common to their neighbours, do not the Governors deny themselves the opportunity of occasionally associating with the committee those who may be useful to it? And do they not, moreover, hazard the risk of detaching from feeling an interest in their institution, a whole class of persons whose professional tendencies lead them to entertain it?"

The answer to the first question is obvious enough. To the second, Dr. Shapter gives a practical reply, from instances which have come within his knowledge.

It is fair to state, that the Governors of the hospital are not, as far as Dr. Shapter has been able to ascertain, really aware of the nature of the obnoxious regulation; and hence there is a hope that, before a long time, it will have become a matter of history. Dr. Shapter has found by inquiry that two other hospitals in England possess a similar rule: the sooner the Governors of these institutions abrogate it, the sooner will they show their good sense.

Mr. Griffin has, by his indomitable perseverance, gained a point in favour of the Poor-Law Surgeons. The Weymouth Board of Guardians have paid him certain fees to which he laid claim, but to the payment of which they at first demurred. The particulars of the case will be found in Mr. Griffin's letter in this day's Journal, and in one published by him in the Association Journal of December 12th. The sum is trifling; but it is the *principle* which is the chief point; and we rejoice that Mr. Griffin has been able to establish it. It is now, as he says, fairly established; and it rests only with the profession to carry it out.

Mr. Taylor will have nothing to do with Mr. Fox, with his communications to the Journals, or with any editorial remarks. It is therefore hopeless for us to attempt to make any impression on him. Our readers will be able to form their own opinions from the correspondence published in this day's Journal.

We were beginning to fear that the design of erecting a statue in honour of the discoverer of vaccination had become defunct, or at least that it was in a state of nearly hopeless asphyxia. It is, therefore, highly gratifying to us to find that our fears have been premature. A paragraph in our news department of this day announces that the Piedmontese Committee for collecting subscriptions have recently remitted to England nearly £100; and that, the statue being finished, steps will be soon taken for procuring a site for its erection. The project has been about six years in hand; and we trust that, before long, our metropolis will be adorned by the statue of one who well deserved such an honour, if ever man deserved it.

The *Times*, quoting from a blue-book of Despatches relative to Immigration into the Australian Colonies, represents the superintendent surgeon of an Australian emigrant ship as a man of extensive authority. Not only is he a medical officer of health, with duties hard enough to perform at the best, but infinitely more difficult if he allow his authority to sleep for the first two or three days; but he is also a superintendent of the morals of the passengers—a *magister morum*.

"He has to keep a vigilant eye over the rising flirtations between the classes denominated, in the stern language of the logbook, 'single men' and 'single women.' No sentiment is allowed on board the emigrant ship; a man may select the future partner of his labours in the new world to which he is bound, but he must keep the selection a profound secret till the end of the voyage, and trust to the operation of a magnetic sympathy for the revelation of his choice to the object of it. The 'Immigration Board' at Adelaide sat upon the conduct of an officer of the ship who had 'paid attentions' to one of the single girls. It was proved that his intentions were quite honourable, and that the parents, who were also emigrants on board, accepted him as their future son-in-law; but 'the Board was of opinion that such intimacies should not be allowed to exist on board ship, as they tended to show a bad example to the crew, and were otherwise calculated to undermine discipline and interfere with the authority of the surgeon superintendent.'"

Periscope.

EPIDEMIOLOGY, HYGIENICS, AND STATISTICS.

THE CLIMATE OF TORQUAY: ITS EFFECTS ON INVALIDS.

Dr. Radclyffe Hall's instructive work on *Torquay in its Medical Aspect* contains an account of the effects which the climate of that town exerts on patients suffering from various forms of disease. The information given does not, so far as we remember, elsewhere exist in so clear and concise a form.

Consumption. "When a consumptive invalid, who has suffered from hurried breathing, hot cheeks and hands, and restless wakefulness at night, has been at Torquay for two or three days, he usually finds that his breathing is easier, his restlessness less, and his skin softer and cooler in the evening. He sleeps at night, and in place of his customary restless excitability he experiences a gentle languor throughout the day. If he had suffered from night-perspirations, these gradually diminish or cease. At the Consumption Hospital here, the question is often answered thus: 'I used to have perspirations every night, but I have scarcely had any since coming to Torquay.' The cough becomes softer and less frequent, and is not now excited as previously it may have been by taking in a deep breath. In fact, the patient is more particularly struck by two things,—the greater ease with which he can fill his chest with air, and a certain approach to sleepiness which he had not used to experience. So much the invalid usually notices for himself. His physician observes, in addition, that the pulse becomes slower and less thready; the respirations more ample and less frequent; the tongue soft, moist, and, if red before, less red. Thirst, if previously present, subsides; the peculiar gleaming brightness of eye becomes less striking; and the carmine patch on the cheek less defined and brilliant. The appetite improves, but the feeling of debility at first does not. It is very common for a new-comer to say, 'I do not know how it is; I eat better, and sleep better, and cough less, and yet I feel no stronger! Indeed, of the two, I feel less energy than before I came to Torquay.' After a time, however, as the soothing influence of the climate continues to exert its beneficial power over the lungs, the patient grows stouter and begins to feel his strength augment. He grows stronger without that morbid excitability which he formerly experienced, and called energy;—energy for the moment it certainly was, but energy without any power of endurance. On first coming to Torquay the bowels act with regularity; in some few persons they have a tendency to act rather oftener than is habitual, but not to the extent of diarrhœa. In a week or two, very generally, the bowels become sluggish, the appetite flags, the invalid feels a certain amount of malaise, and says he is 'bilious.' He feels suddenly very weak, and, as he not uncommonly remarks, 'as if his knees did not belong to him.' His tongue is now rather flabby, moist, and slightly coated with white. This state of matters, which depends upon defective excretion from the liver and the intestinal mucous membrane, is truly enough what is conventionally understood by the term 'biliousness.' The medical attendant finds no difficulty in removing it; and the patient is surprised at his increased feeling of strength and lightness of spirits after the load which temporarily oppressed him has been removed. This 'biliousness' has no tendency, like the 'bilious attack' of August and September, so common everywhere, has, to cure itself by a spontaneous attack of diarrhœa. On the contrary, if neglected, the bowels are apt to be confined, the whites of the eyes become muddy and yellowish, and, in persons who are not consumptive, jaundice may arise. I do not remember to have ever seen a patient, in whom consumption was advancing, become completely jaundiced."

Pneumonia and Pleurisy. "An invalid who is suffering from an attack of inflammation of the lungs, or from severe pleurisy without tubercles, experiences very similar effects from Torquay to those above stated. A gradual lessening of evening feverishness, and increased freedom of breathing, are among the earliest signs of benefit."

Bronchitis. "In the sensitive condition of the respiratory organs which is left by an attack of bronchitis, and in cases of chronic bronchitis, the climate of Torquay is remarkably serviceable. In those protracted cases in which more or less of dilatation of the bronchial tubes has arisen, attended with morning expectoration, and with many of the symptoms of consumption but without the presence of tubercles, on coming here the pulmonary irritation abates by degrees, and the general health correspondingly improves."

Asthma. "An asthmatic invalid, meaning by this a person affected with the pure spasmodic form, is either exactly suited by Torquay, or not at all. The trial is the only test. Another form of so-called asthma, which depends upon an emphysematous state of the lungs (that is, ruptured air-cells—the disease which, in horses, constitutes "broken wind"), in which the difficulty of breathing to some extent is permanent, is relieved by Torquay in proportion to the relief afforded by the climate to the bronchial irritation, which, to a greater or less extent, habitually accompanies this disease."

Diseases of the Heart. "In most forms of affection of the heart, a residence at Torquay is conducive to comfort, and to the avoidance of those mischances to which a patient thus afflicted is peculiarly liable. In some instances, however, it proves unsuitable. The distinction is not difficult to make beforehand. When the patient suffers from over-impulse of the heart and difficulty of breathing on slight exertion, and a sense of obstructive oppression in the chest, particularly if the complexion be florid, and the skin harsh and dry, Torquay will agree. But when the patient is pallid and flabby; frequently faintish, and always feeble; the skin soft, cool, and often moist with cool perspiration; when, in short, the heart is constantly too weak, without any active irritation existing in the lungs, and with a low state of the general vital power, as a rule, Torquay will not agree."

Dyspepsia. "In chronic affections of the digestive mucous membrane, Torquay proves either exceedingly beneficial, or quite the reverse, according to the nature of the case. It is not unusual to hear one person say, "Speak of Torquay producing indigestion! why living here has completely cured me of indigestion"; whilst another complains that his appetite is keener anywhere else than at Torquay.

"When the tongue is too red, inclined to dryness on first waking, with some amount of thirst, a sense of sinking when the stomach is empty, and of uneasiness after taking food, occasional nausea and headache, we have a form of indigestion which Torquay will generally cure. The tongue gradually loses its extra redness, becomes moister and more healthy-looking; the patient is no longer disabled from exertion of both mind and body by a moderate dinner, and the multitude of symptoms which are sympathetic with an over-irritable stomach gradually disappear. Delicate children suffering from that irritable condition of the mucous membrane of the digestive organs which occasions what is called infantile remittent fever (frequently mistaken by nursery attendants for vermination), derive great advantage from this climate. Such cutaneous eruptions about the face as depend upon a state of chronic irritation of the stomach also improve here.

"On the other hand, pure atonic dyspepsia is made worse by residence in most parts of Torquay, unless during the accidental prevalence of the north wind. When the patient is habitually pale and flabby, the tongue large, moist, pale, and indented on the sides by the teeth, the skin cold and damp, the lining of the lower eyelids pale, the pulse slow, feeble, and arrested by very slight pressure, the muscular and mental energy small, and the symptoms of indigestion rather those which proceed from habitual flatulent distension than from periodical pain; when the patient is much relieved by such stimulants as port wine, cayenne pepper, etc.; *provided this state of indisposition be not connected with obstructed circulation from disease of the lungs;* with such a form of indigestion Torquay does not agree."

Chronic Liver Disease. "Persons who have resided in India for a few years only are generally very well suited by this climate. And some who have spent the greater part of their lives in hot climates, also select Torquay, with advantage, as their winter residence. A few, however, in whom the enlarged and torpid liver seems to refuse its work, find, if they try it, that Torquay does not suit them. They lose their appetite, become thinner, yellower, and miserable in their feelings; and they improve after leaving Torquay. These cases are exceptional, but so marked when they do occur, that I have no hesitation in deciding that this place is positively injurious to them."

Neuralgia, "when it depends upon chronic irritation of some mucous surface, is benefited by Torquay. When, on the other hand, it is the relic of former malarial agency, this climate appears sometimes to awaken the old susceptibility of

the faulty nerve. The attacks, however, are scarcely, perhaps, so intensely severe as we see them to be elsewhere.

"Periodical nervous headache, when not kept up by gastric or other form of irritation, is not benefited by Torquay. The same may be said of hypochondriasis when it occurs in persons of languid circulation."

Pure rheumatism, "whether acute or chronic, is benefited by Torquay."

Gout, "when it occurs in a person of sanguine temperament, with an active habit of body and mind, is suited by this climate. The atonic forms of chronic gout, and of rheumatic gout, occurring in persons of feeble habit, deficient energy of the digestive organs, and languid circulation, are not."

Amenorrhœa. "There are certain forms of functional derangement for which a residence here proves very advantageous; and this is frequently one of the great advantages of the climate for females in the earlier stages of pulmonary consumption. Alluding to cases of functional suspension, Dr. West observes, 'In cases where general debility characterises the patient's condition, tonics in the widest sense of the term are indicated; and by them I understand not merely tonic medicines or preparations of iron, though they will almost always be appropriate, but the tonic influence of pure air, healthful pursuits, and exercise short of fatigue. In these cases, too, the one great danger to watch against is that of the supervention of phthisis; and a winter's residence at Torquay or Ventnor is useful in many instances, not only as a means of guarding the delicate lungs from the cold of many inland places, but also because the warm climate and the sea air appear of themselves to have a beneficial influence in favouring the healthy development of the reproductive system.'

"From this brief sketch of the effect of the climate of Torquay upon several forms of disease, it will be inferred that the modes in which it exerts its influence are due to its power of soothing the organs of respiration, circulation, and the nervous system. Its tendency is, to allay irritation of all the mucous membranes, to lessen inflammatory action in general, and consequently to relieve all the feverishness which is dependent on local inflammation; to promote a gentle action of the skin; to render the pulse slower and fuller; and to favour sleep."

Diseases occurring in Torquay. "A town of 14,000 inhabitants cannot be expected to be exempt from any of the ordinary diseases; but a special climate usually stamps its impress upon each disease as it occurs. This is the case at Torquay. Acute inflammations of any kind are rare. The common diseases of children, such as hooping-cough and measles, are usually mild. Scarlet fever has occasionally proved severe. When continued fevers occur, they early require, and quickly improve under, a stimulating mode of treatment. Amongst the young, chilblains are very common; hæmorrhoids amongst the middle-aged. Both affections indicate a tardy circulation of the blood. On this account it is, I believe, that the latter affection, when it occurs in a consumptive invalid, provided it do not lead to large losses of blood, is of good import rather than otherwise."

Is any part of the world absolutely free from pulmonary consumption? Dr. Hall has some remarks bearing on this interesting question, which we transcribe nearly entire.

"Amongst the natives of Torquay, consumption is less common than in many other parts of Great Britain, but it is seen sufficiently often to deprive the place of any character that might be claimed for it of immunity in this respect. There is, indeed, no part of the world in which, if carefully sought for, pulmonary consumption would not be found.

"It is a fallacy not uncommonly received, to infer that a place in which such a disease as consumption arises spontaneously cannot therefore be of any especial service to persons from a distance who are affected with the same disease. As consumption depends upon lowered vital power, it may and does arise in any and every climate; and to remain in the same identical climate affords, of course, no fresh stimulus to the vital energies of the patient. It is the change from what was before habitual to something fresh and suitable that is useful. Hence, when a native of the shore becomes consumptive at the sea side, he is benefited by moving inland, notwithstanding that the sea air to a landsman is so renovating. Hence, too, the advantages to those consumptive invalids who can bear it, of mountain air during the summer, after spending the winter at the sea coast. The natives of the coast towns in Peru, when they become consumptive, are sometimes cured by removing to one of the high mountain towns on the Andes, situated from about 5,000 to 10,000 feet above the level of the Pacific."

This assertion is supported by the observations of Dr. Smith in a paper on the *Diseases of Peru*, in the *Edinburgh Medical and Surgical Journal* for 1840.

"In Mexico, the Rocky Mountains are resorted to with advantage. In India, pulmonary invalids are sent to the Hill Sanatoria, or to the Cape, or home to England. Dr. Hegewisch, of Vera Cruz, informs me that consumptive patients there, when in the first or second stage of the disease, obtain much relief from removal to a cooler climate on the high ground, 'and often the progress of the disease is checked for years.' Vera Cruz is excessively hot and humid, having an annual rain-fall of 185 inches. Here we have an example in which removal from the coast, and a change from excessive heat and moisture, to a more temperate and dry climate, proves salutary. I now adduce a converse fact in which removal from a hot and dry inland region to the more humid but warm sea coast, acts beneficially on the consumptive. The English vice-consul at Tripoli writes me, 'Consumption is of very rare occurrence here; it is, however, sometimes very prevalent amongst the slaves who are brought from Central Africa, and it is an odd and striking circumstance, that even those who arrive here in an apparently incurable state, mostly recover very quickly, and appear to thrive very well afterwards.'

"We may take it as a rule that, for a consumptive patient, it is not so much the absolute scale of temperature that should be considered, as the change to a climate milder and more equable than the one to which he has been accustomed. And this is consolatory, for on any other terms a resort for the consumptive would seem to be an Utopia. Consumption is least common amongst the inhabitants of the severest countries—the Arctic regions, Siberia, Iceland, and the Hebrides. One reason may be, that as none but persons of hard constitution can live here, those children who would ultimately prove consumptive die during infancy. As a result of this, as none attain maturity but such as are extra hardy, the race soon becomes unusually hardy as a matter of hereditary descent. But putting consumption aside, the longevity of the inhabitants of these severe countries is not great, and the infant mortality is enormous. In a part of Iceland, 'the average mortality for the last twenty years during the first twelve days of infantile life has been no less than 64 per cent., or nearly *two out of three*.' In the island of St. Kilda, one of the Western Hebrides, it was stated by Mr. Maclean, in 1838, 'that four out of five of all infants born died from trismus nascentium (infant's lock-jaw) between the eighth and twelfth days of their existence.'

"'Tubercular consumption,' says the eminent geographer, Mr. Keith Johnston, 'cannot be said to be a disease peculiar to any one portion of the globe, or to be dependent on climate in any appreciable degree, unless it can be shown that it does not prevail in the excessive climates of the north. It originates in all latitudes from the equator, where the mean temperature is 80°, with slight variations, to the higher portion of the temperate zone, where the mean temperature is 40°, with sudden and violent changes. The opinion long entertained, that it is peculiar to cold and humid climates, is founded in error. Far from this being the case, the tables of mortality of the army and navy of this and other countries, as well as those of the civil population, warrant the conclusion that consumption is more prevalent in tropical than in temperate countries.' This last conclusion is, perhaps, too general. It should only apply to the class of persons of whom the returns are made up. It will, probably, prove true that, other things being equal, consumption is less frequent in tropical climates than in temperate ones. All, however, that I here contend for is, that the fact of consumption arising in an inhabitant of a given locality is no reason whatever why that locality should not prove most suitable for those consumptive invalids in whom the disease commenced whilst residing elsewhere. The question is not, where may a hardy man live and feel the hardiest? but where may a delicate person continue to live at all? And the practical reply may be given in the form of another question. Where is an invalid *with consumptive disease already commenced* likely to live the longest, at Torquay or in Siberia?"

THE CATTLE MURRAIN.

A Vienna correspondent of the *Times* has recently addressed to that paper a communication on the symptoms and treatment of the diseases commonly comprehended under the designation of *Vieh-seuche*, or cattle plague. The article appeared in the *Times* of April 21 and 22; and the care and accuracy with which it appears to have been drawn up, lead us to transfer the greater portion of it to the pages of the Journal.

There are three complaints which, on the Continent, are popularly called *Vieh-seuche* (cattle plagues). The first is a catarrhal affection of the lungs; the second, a pulmonary complaint with typhoid symptoms; and the third, a highly contagious typhus (*typhus bovum contagiosus*).

I. *Simple Pulmonary Catarrh.* The principal symptoms of simple catarrhal affection of the lungs are—first, shivering at the commencement of the malady; second, sadness and prostration of strength; third, the pulse is quicker than usual, and there is fever; fourth, the skin feels dry; fifth, the cough, which is at first dry and hollow, and comes by fits and starts. After a lapse of four or five days the cough gets "loose," and there is a discharge of phlegm; a rattling noise is heard when the animal draws its breath, and a frothy mucus escapes from its nostrils when it allows its head to droop. It is only under unfavourable circumstances, such as immoderate excitement, a naturally bad constitution, or injudicious treatment, that the catarrhal inflammation of the lungs ends fatally; but a chronic secretion of phlegm and asthmatic cough often remains for a considerable time after the animal is convalescent. In the first stage of the disease, the flesh of the animal is regarded as innocuous; at the beginning of the second, the sale of the meat is not prohibited; but no one is allowed to kill and sell the flesh of cattle which have reached the third, or malignant stage of the malady. The medical police in Austria does not consider this disease as contagious.

II. *Lung disease combined with Typhus.* This disease may be divided into three periods. The symptoms of the first period, during which there is no fever, are—1. Sadness and prostration of strength; 2. Drooping head and pendulous ears; 3. Eyes fixed, without loss either of lustre or of colour (in vigorous animals the eyes are often red and fiery, but dry); 4. The skin of the nostrils pale and the inside of the mouth "slimy;" 5. The temperature of the body low, with horns, ears, and feet cool; 6. The skin dry and tense, the hair lustreless, rough, and bristly, and erected along the spine; 7. Breathing difficult. The first period sometimes lasts a fortnight or three weeks; the second, or feverish period, lasts three or four days. The symptoms are those above described, with feverish movements. The diseased animal has fits of shivering, considerable exacerbation in the evening, and remission of fever towards the middle of the day. After the cold or aguish fits are over, the reaction is much less violent than in other inflammatory complaints. Each paroxysm of fever is accompanied by an acceleration of the respiration, which is audible, and often accompanied by a moaning sound. The weakness and exhaustion of the animal are very great; the temperature of the ears, horns, and legs changes continually—now warm now cold; the skin is dry and rough, and looks as if dust was strewn on it; the hair is erect, and the eyes, which are opened wide, are projecting, dry, shining, and fixed: the pupil is dilated. The nostrils are covered with a slimy secretion, which the suffering animal frequently removes with its tongue; the teeth are loose; the loins are so sensitive that the pressure of the hand cannot be borne without shrinking, and the pain in the chest increases. The animal lies down but seldom, and when it does so, it is on the side on which the lung is affected. If both lungs are diseased, the animal rests on its breastbone, with its legs under its body and its head and neck stretched out. The alvine secretion is often either entirely suppressed or very scanty. The urine is dark in colour and pungent in smell. During the third period, which commonly ends in death, the uneasiness and agitation of the animal are extreme. It continually changes its position, and draws back from the crib to the length of its tether. The eyes sink and become glazed, and the lids fall as if the animal were about to sleep. The horns, ears, and nose, are cold; the mouth is filled with offensive phlegm and slaver, and an ill-coloured secretion flows from the nostrils. The animal gnashes its teeth, which are loose and shaky, the hair becomes more and more bristly, and the emaciation is rapid. At this period of the disease the pulse is often above 100 a minute.

The "lung disease" combined with typhus is not only a more fatal complaint than that above mentioned, but it is sometimes contagious. If it is to be cured, it must be attacked while the animal has its full strength and vigour. Early repeated bleedings, counterirritation, and purgatives by mouth and in enemata, are the chief remedies. But if difficult respiration, violent cough, increasing emaciation, etc., continue for some time, the best thing that the agriculturist or grazier can do is to go to no further expense either for medicine or food.

The sanitary measures taken by the Austrian medical police in this disease are the following: The herd or farm is strictly examined, and all those animals that cough are put on the sick list, and must be kept apart. As the lung disease is believed to be contagious, not only the herd in which it prevails, but also the men who tend it are kept from communication with the surrounding farms, hamlets, etc. Instead of being driven out to graze, the cattle are fed on the premises; and it has been observed, that a change from green to dry food always produces a good effect on the animals which are still healthy. The sick cattle have their own attendants, who are not allowed to go near the other stalls; and a healthy animal is never allowed to drink out of a pail which has been used by one that is unwell. The carcases of the cattle which die must be buried in a very deep pit, with the straw on which they had lain. If the cattle are skinned, the skins are for a time to be put into a lime pit. If the disease assumes a very malignant form in any place, a cordon is drawn round it, which is not raised until six weeks from the time of the last death. The stalls or stables in which sick cattle have been kept are always scrupulously scoured, the various implements cleaned with strong lye, and the cribs, mangers, etc., washed with a solution of chloride of lime. Some time must elapse before the convalescent animals can safely be allowed to join their fellows.

III. *The Real Cattle Plague* (*Löser-Dürre*). This has four periods. During the first period, which begins about five days after the infection has been taken, the following symptoms are observable: 1. The animal is generally languid, its movements are heavy, its gait is tottering, and it is less sensible than usual to outward impressions; in other cases it bellows and beats the ground with its hoofs, and is unusually unruly and vicious. 2. The appetite is often much greater than usual; but after the animal has swallowed its food, it appears inattentive to what is passing around it, and hangs its head and ears. 3. When the animal rises from the earth it does not stretch itself as healthy animals usually do, and instead of sinking its back it arches it. 4. The eye has more lustre than usual, and its vessels are slightly reddened. 5. Tremulous movements are perceptible in the skin, and the hair on some parts of it becomes rough. 6. After the fourth or fifth day, the animal coughs at intervals, and often groans. 7. The animal licks its chaps less than usual. 8. No strong pressure with the hand can be borne, and the back immediately sinks if the loins are squeezed. 9. The "droppings" are drier and less furrowed than is usual.

On the eighth day after the infection, the plague is regularly declared. The symptoms are: 1. Aguish paroxysms, and often a twitching of the whole skin. 2. Bristling of the hair. 3. Trembling of the limbs, and particularly of the hind quarters. 4. During the paroxysm the animal is generally very uneasy; it stamps, holds up its head, and shakes it continually. The vigorous cattle are very violent in their movements, have a wild eye, snort and bellow, and devour their food greedily. The weak and aged beasts, which are less wild and unruly, shake their heads and grind their teeth. 5. The roots of the horns and the hanging ears are sometimes very hot and sometimes cool. 6. The chaps and muzzle are dry, the interior of the mouth is of a light red and "steaming hot", the gums swollen and spongy, and the incisors somewhat loose. The gums have frequently spots of a deep red. 7. The sensitiveness of the loins increases. 8. The skin is extremely tense. 9. The pulsation is accelerated. 10. A single (not continuous) violent, hollow, and convulsive cough, which is totally different from any other. 11. The rumination is incomplete and interrupted. 12. The alvine excretion is scanty, dark, sometimes almost black, parched, and deeply furrowed. The discharge takes place very frequently. 13. The tail is either extended in a horizontal line, or used to strike the sides of the animal, which continually looks round to its hind quarters. 14. The urine is of a high red colour. 15. It is frequently the case that air bladders can be felt under the skin on the back and loins. 16. The fever increases in the evening, and becomes less violent in the morning. 17. The milk in cows diminishes, and in some cases is altogether dried up.

During the third period, which begins on the ninth or tenth day from the infection, all the above-mentioned symptoms increase in violence. The animal is excessively weak and sad, stands at a distance from the crib, and hangs its head almost down to the ground. If the lungs are much affected it lies down a great deal, but if not it remains on its legs. The emaciation is extreme. The eyes begin to run, and a clear white, viscous fluid flows from the nose. By degrees the tears thicken and form a crust which half covers the eye, the discharge from the nose becomes cloudy and "glandery," the

tongue is flaccid, and the breath has a peculiar and almost putrid smell. The rumination ceases entirely. The alvine secretions are now watery, and are ejected or rather squirted out with violence. The animal suffers greatly from tenesmus. If there is no diarrhœa, which is sometimes the case, the hind part of the body is greatly swollen.

On the thirteenth or fourteenth day, when the complaint has reached the highest pitch, the fourth period begins. The animal can hardly keep on its legs, a thick ash-gray fluid runs from its glazed eyes, a corrosive secretion escapes from its nose, a thick phlegm fills its mouth, and the putrid exhalation becomes almost unbearable. The skin of the mouth and the gums is dried up, "and the tallow-like skin of the animal peels off in great flakes." The serous and even bloody alvine secretion is discharged almost without interruption; the head of the suffering animal is continually twisted round to its hind quarters. Death generally ensues on or about the seventeenth day after the infection.

The *Löser Dürre* has invariably been brought into Austria by cattle coming from Podolia, Bessarabia, or the Danubian Principalities, and the importation of beasts from those provinces is frequently prohibited. As soon as it is known that the plague is raging on the other side of the frontier a cordon is drawn, which is not raised until the disease has entirely ceased. If this government finds it necessary to have a number of beasts killed in order to put an end to a contagious disease, the proprietor receives £5 a-head from the state; but the sum is so ridiculously small that many sick cattle are driven away and sold before the authorities are aware that the murrain has made its appearance. If a butcher on killing an animal finds it to be diseased, and does not inform the police of the fact, he is liable to be fined £4 for each offence. If he announces his discovery he receives only £5 as an indemnification for his loss. The "*löser*," or third stomach of cattle which die of the real or steppe murrain is invariably diseased. On the outside it is generally covered with livid spots, and in the inside is found ruminated food, not in a pulpy mass, as it ought to be, but in the form of a dry, dark green, coarse powder, which is pressed in between the "leaves" of the *löser*. The fourth stomach is always either highly inflamed or gangrenous.

During the Russo-Turkish war in 1827 and 1828 Russian herds driven into Silesia brought the murrain with them, which carried off 30,000 head of cattle in Hungary, 12,000 in Gallicia, and 9,000 in Moravia. According to a very moderate estimate made by M. Faust, the steppe murrain had at the end of the last century carried off 28,000,000 head of cattle in Germany.

Association Intelligence.

ADMISSION OF MEMBERS, AND PAYMENT OF SUBSCRIPTIONS.

The General Secretary of the British Medical Association begs to call the attention of members to the Laws regarding the Admission of Members, and the Payment of their Subscriptions.

"*Admission of Members.* Any qualified medical practitioner, not disqualified by any bye-law, who shall be recommended as eligible by any *three* members, shall be admitted a member at any time by the Committee of Council, or by the Council of any Branch."

"*Subscriptions.* The subscription to the Association shall be One Guinea annually; and each member, on paying his subscription, shall be entitled to receive the publications of the Association of the current year. The subscription shall date from the 1st January in each year, and shall be considered as due unless notice of withdrawal be given in writing to the Secretary on or before the 25th of December previous."

Either of the following modes of payment may be adopted:—

1. Payment by Post-Office Order to the Treasurer (Sir C. Hastings, M.D., Worcester), or to the undersigned.

2. Payment to the Secretary of the Branch to which the member belongs.

3. Members residing in the Metropolis and vicinity can make their payments through the publisher of the British Medical Journal, Mr. Thomas John Honeyman, 37, Great Queen Street, Lincoln's Inn Fields, W. C.

Philip H. Williams, *General Secretary.*

Worcester, May 1857.

LIST OF MEMBERS WHO HAVE PAID THEIR SUBSCRIPTIONS FOR 1856.

(*Continued from p. 658 of* Association Medical Journal *for August* 2, 1856.)

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BRANCH MEETINGS TO BE HELD.

NAME OF BRANCH.	PLACE OF MEETING.	DATE.
METROP. COUNTIES. [Ordinary Meeting.]	37, Soho Square, London.	Tues., May 12, 4 P.M.
SOUTH MIDLAND. [Annual Meeting.]	George Hotel, Northampton.	Thurs., May 21, 2 P.M.

Reports of Societies.

MEDICAL SOCIETY OF LONDON.

SATURDAY, FEBRUARY 14TH, 1857.

W. D. CHOWNE, M.D., President, in the Chair.

EXCISION OF THE HEAD OF THE FEMUR AND FLOOR OF THE ACETABULUM, FOR CARIES COMBINED WITH PELVIC ABSCESS. BY HENRY HANCOCK, ESQ.

EXCISION of the head of the femur had been performed for gun-shot wounds and other injuries of the part, and also for caries; but the case related by Mr. HANCOCK was the first in which the operation had been undertaken with the avowed object of excising the head of the femur and floor of the acetabulum, and relieving pelvic abscess. The operation of excision of the head of the femur in cases of injury did not appear to have excited any difference of opinion as to the propriety of its performance. But in regard to caries, some surgeons, as Mr. Syme and Mr. Skey, condemned the proceeding altogether; others, whilst advocating and performing the operation, restricted its employment to a certain class of cases, to the exclusion of others in which it appears to Mr. Hancock to offer equal, if not superior, advantages. The operation was thus partially advocated by Messrs. White, Fergusson, Knox, Smith, Walton, Dr. Bonino, and others. The opinions of surgeons on excision of the head of the femur, from its resuscitation in 1844 to the present time, might be thus summed up. Some condemn the

operation; while others assert that it should only be performed —1, in the last stage of hip-disease; 2, when the head of the bone is dislocated; 3, when the cotyloid cavity is free from disease; 4, when the amount of pelvic disease is but trivial. Dr. Knox asserts "that the pelvic portion of the hip-joint is beyond the reach of excision". Other objections had also been raised; namely, the possibility of mistaking disease of the sacro-iliac synchondrosis, or of the pelvis itself, for hip-joint disease; and another, to which Mr. Coulson attaches great importance, that in this disease it is not the articular symptoms which generally produce death, but the exhaustion of the frame and strength. After stating at length his objections to the limitations laid down, Mr. Hancock related the following case:—Timothy D., aged 14, was admitted, under Mr. Hancock's care, into Charing Cross Hospital, in July 1856, with disease of the hip-joint. Five years before, observing a swelling in the groin, he attended at the Middlesex Hospital, where he was made an in-patient, and remained five months. Two years afterwards, abscesses formed around the joint; and, eighteen months ago, he came into Charing Cross Hospital, where he remained three months, when he left apparently cured. He continued able to walk for ten months, when he was attacked with severe pain in the knee, and was again admitted into the hospital. Shortly afterwards, abscesses formed around the hip-joint, opening behind the trochanter, and also low down on the back of the thigh; and, subsequently, an abscess burst in the groin; and a probe introduced into this opening passed readily into the pelvis. He, in the course of time, became so emaciated and worn out with the profuse discharge, night sweats, loss of appetite, etc., that it was evident he could not long survive if something were not done for him. Great prostration and cough supervened, and his sputa became streaked with blood. Dr. Willshire examined his lungs, and pronounced them free from any cause contraindicating an operation. Having as far as possible ascertained that the disease was confined to the hip-joint and pelvis, Mr. Hancock examined the inside of the latter with a probe through the opening in the groin, and then discovered perforation of the acetabulum. Under these circumstances, he concluded that the pelvic abscess, and the boy's condition generally, were due to hip-disease; and that by removing the head of the femur, and the floor of the acetabulum, not only might the diseased bone be removed, but also by affording a free and depending opening for the discharge of the matter, the pelvic abscess might be approximated to the condition of an ordinary abscess. On the 6th of December, 1856, the patient having been submitted to the influence of chloroform, and placed upon his left side on the table, Mr. Hancock commenced the operation by making a crucial incision over the great trochanter, extending about three inches beyond in all directions. The flaps having been reflected, a circular incision was carried round the head of the bone, which remained in its cavity, cutting through the glutæi, the muscles inserted into the digital fossa, the pectineus, etc., and opening the capsular ligament. Upon examination by the finger, the neck of the femur was discovered to be so much diseased that Mr. Hancock cut through the bone immediately below the great trochanter; after which, the head of the bone was removed without difficulty. When this was done, the acetabulum was found to communicate by two openings at its deepest part with the pelvic abscess. Mr. Hancock endeavoured to excise the floor of the acetabulum with the bone-nippers, but could not; and therefore with a metacarpal saw he cut round the acetabulum, removing the whole of the diseased bone, exposing the thickened pelvic fascia, and leaving a large opening for the escape of the matter from the pelvic abscess. The flaps were then brought together, and united by sutures, except opposite and below the opening in the acetabulum, where they were kept separated by lint. A splint, extending from the armpit to the foot, was next applied, as the leg could now be straightened without difficulty, and the patient returned to his bed. Very little blood was lost during the operation, and no vessels required tying. The operation was followed by almost instant relief of his constitutional symptoms. The patient was a little sick for the first forty-eight hours from the chloroform, but otherwise his course was one of uninterrupted improvement. His countenance soon became cheerful and free from anxiety; his night-sweats ceased in two days from the operation. On the third day, the wound in the groin was entirely healed. The discharge from the wound made at the operation, which for the first few days was very abundant, gradually became thicker and diminished in quantity. He was able to sit up in bed for the first time for nearly a year with his knee straight fourteen days after the operation. In three weeks, he dressed himself, and sat in a chair by the fire. In five weeks, he was able to walk with a crutch and a stick; at the end of eight weeks, however, he imprudently dispensed with both crutch and stick; inflammation ensued, followed by abscess external to the pelvis. This subsided; and the patient is gaining flesh and strength, and able to walk out daily.

Saturday, February 21st, 1857.

W. D. Chowne, M.D., President, in the Chair.

Treatment of certain diseases of the knee-joint by the operation of resection. By P. C. Price, Esq.

Nearly seven years had elapsed since the revival of the operation by Mr. Fergusson. During this interval the subject had excited the greatest attention, and many opinions had been offered regarding its value and its right to be admitted as a recognised operation in surgery. Many errors had been committed, and the intentions of the operation had on more than one occasion been overstrained; yet in the limited number of cases recorded, a success had been achieved, which forcibly disposed of all theoretical objections which had been offered, and fully warranted a more extended trial. Mr. Price eulogised Mr. Butcher's labours in connexion with the subject of resection. Twenty cases of the operation had fallen under the author's immediate notice—one-fifth of the entire number which had been recorded since it was adopted by Park in 1781. Three of these operations had been performed by himself; in the remainder he had been either an assistant or an interested spectator, and had enjoyed opportunities of watching the subsequent treatment, so as to accumulate a mass of information and facts. The principal affections of the knee-joint, which are more or less amenable to the operation of resection, were classed under the following heads:—1. Inflammation of the synovial membrane, acute and chronic. 2. That class of affections which Sir B. Brodie includes under the title of "where the synovial membrane has undergone a morbid alteration of structure". 3. Where ulceration of the articular cartilages had arisen as a primary affection. 4. Scrofulous disease of the cancellated ends of the bones entering into the formation of the joint. Discarding all very acute cases of these affections, with their various complications, few surgeons probably would venture, on practical grounds, to dispute that these diseases are frequently amenable to resection. In cases of acute inflammation of the synovial membrane demanding prompt removal of the source of irritation, the author believed resection was, as a general rule, unwise. The acute nature of the symptoms, the sympathy of neighbouring structures, and of the entire system, and the unfavourable condition in general of the patient, were sufficient reasons for preferring amputation. The danger following resection in such cases was the liability of the ends of the bones to take on an unhealthy action. Pyæmia had carried patients rapidly away, and acute necrosis had also quickly terminated in death, or demanded immediate amputation, provided a limitation of the inflammation, and subsequent exfoliation of the part, could not be expected. In the more chronic forms of synovial disease, not uncommon amongst the poorer classes, resection had been frequently resorted to with much benefit. During the last six years, the statement of Sir B. Brodie, that here an accurate diagnosis was of no great importance, as it could lead to no essential difference in the surgical treatment of the case, had been disproved, for amputation had been superseded by the more humane operation of resection. The author, however, was by no means inclined to admit that such cases were the most favourable for the operation; but they could be treated in this way much to the advantage of the patient and to the credit of surgery. The value of the operation the author believed to be exemplified in the treatment of cases "where the synovial membrane has undergone a morbid change of structure." There was seldom seen any extensive and acute inflammation breaking down fibrous, cartilaginous, and bony structures; very often no emaciation, and long suffering inducing hectic and irritative fever. The patients were for the most part otherwise healthy, and, perchance, submitted to an operation more for the sake of convenience and comfort than as an escape from suffering and death. These, and other features, would pre-eminently recommend resection for affections of this class. In acute ulceration of cartilages, occurring as a primary affection, the author was led to take an unfavourable view of resection, provided the symptoms were extreme, and especially if evidence existed of the participation of the bones in the disturbance. In more chronic or subacute cases the operation must be

looked upon as highly advantageous, as experience has attested the good effects of its adoption. It was, however, to the employment of resection in scrofulous disease of the knee-joint, commencing in the cancellated tissue of the bones, tibia and femur, that the author particularly wished to direct attention. Great stress was placed upon a right appreciation of an operation more or less applicable on many occasions. The pathological changes that take place in the meshes of the ends of the bones, and their cartilaginous coverings, were illustrated by drawings from the pencil of Dr. Westmacott, from cases which had been treated by Mr. Fergusson and by the author. Resection was an operation highly useful in the treatment of joints extensively destroyed by strumous disease, and extensive destruction of the cancellated ends of the bones was of little consequence, provided all the disease were removed from contact with the healthy parts. The extent to which parts so diseased might be removed, was illustrated by a remarkable case, under the care of Mr. Jones, of Jersey, in which the upper half of the tibia, as well as the entire articulation, was removed with success. The author next proceeded to inquire how it was that, considering the apparent advantages of resection, so much dispute regarding its employment had arisen? This was attributed, in a great measure, to the general ignorance that existed regarding it, and also to the lethargy and unwillingness that prevailed amongst many surgeons to adopt a new proceeding, or one which, having been adopted on one occasion, and signally failing through want of due skill and judgment, had not been repeated, the ill success being unfairly attributed to the operation. The operation had been denounced by Mr. Syme as "bloody and formidable;" and yet he had distinctly taught and written that "there is not much bleeding, but one or two of the articular branches may require to be tied." (*Excision of Diseased Joints*, 1831.) If, then, the former expression has reference *solely* to the subject of hæmorrhage, occurring at the performance of the operation, Mr. Syme would appear to have contradicted himself. A comparison between the results of resection and modern amputation of the thigh was shown to be unfair. If comparisons were to be drawn between resection and another operation or injury, the author would feel more inclined to liken it to a severe compound fracture. With regard to the performance of the operation, the advantage gained by not removing the entire epiphyses was advantageous in two ways; first, osseous union would be more likely to take place, and the new product would be in many ways better adapted as a bond of union; and, secondly, should unhealthy inflammation of the ends of the bones destroy the bony structure, provided the epiphyses had not been removed, the mischief might be entirely confined to this portion of the bone. Such an unfortunate occurrence was apt to arise from two causes: damage inflicted on the ends of the bones at the time of the operation, or during the after-management. Both these mishaps the author had seen, on more than one occasion, to prove fatal. He called attention to the importance of correct after-treatment, and strongly recommended the splint described on a former occasion by himself. Division of the hamstring tendons had been devised, "as all tendency to after-mismanagement is checked." Such a statement had been made partly on supposition, for hideous deformity had more than once arisen from so doing; it was therefore necessary duly to consider the propriety of this proceeding.

Many excellent water-colour drawings and casts of limbs after the operation were exhibited, showing the condition of various diseased joints which had been treated by resection.

Mr. HENRY SMITH exhibited a little boy, whose knee-joint he had removed. The operation had been performed on account of a strumous abscess in the head of the tibia.

Mr. WALTON believed that all surgeons were not acquainted with the great fatality of cases of amputation. One hospital surgeon had told him that the operation of amputation of the thigh, performed at the institution with which he was connected, proved fatal in almost every second case. With a knowledge of this fact, he quite agreed with the author in strongly recommending resection to the consideration of the profession. The extreme rapidity in which reparation was brought about in strumous cases he had noticed particularly in one of his cases of resection of the head of the thigh-bone. The subject of the operation was decidedly tuberculous, and although he died three months after the operation with tubercle in every organ of the body, with extreme emaciation, repair had to a great extent taken place between the upper portion of the femur and the wing of the pelvis.

Mr. GAY had some years ago condemned resections of joints; but now he had altered his views, and was fully prepared to recant the expressions which he had made use of, and which, unfortunately, had been chronicled against him. He was gratified to find that the author had considered, at so much length, the selection of suitable cases for the operation; a great deal of success of course would depend upon this. The author, from his considerable experience in diseases of the joints, was entitled to be heard regarding this somewhat new operation; and what he (Mr. Gay) had heard this evening had impressed him with the value of the operation on certain occasions.

Mr. HENRY SMITH congratulated the author upon the success which had attended his cases. It was a great point for a single surgeon to have had three successful consecutive cases. It was, in his opinion, the care with which the cases had been selected, and the manner in which the after-treatment had been conducted, that had led to this favourable result. He (Mr. Smith) had seen much of this operation, and he agreed with the remarks that had been made regarding the more frequent employment of resection in cases of strumous disease of the joints. He referred the Society to the able memoirs of Mr. Butcher, of Dublin. A success had been obtained that was most gratifying; for out of eighty-two cases recorded, only *twelve* deaths had taken place. Comparing these results with amputation, it must be admitted that resection is not such a fatal operation. Mr. Phillips had, in a paper read before the Medico-Chirurgical Society, proved that the fatality of amputation of the thigh was seldom less than one in four. It was much to be regretted that the cause of resection had been injured by the opinions of many surgeons. Mr. Syme had spoken of the operation in a manner which was incorrect. Mr. Jones, of Jersey, had operated on nine occasions, and he had not had occasion, in any instance, to place a ligature on a single vessel. Mr. Fergusson had likewise but occasionally to place a thread on one or two of the articular branches. As far as he was aware, no good argument had ever been used against the more general adoption of the operation.

Dr. BRINTON said that it was evident, from the statistics adduced, that the operation was worthy of much consideration. He agreed with the author in his remarks upon the importance of paying due attention to the union of the epiphyses with the shaft of the bone.

PATHOLOGICAL SOCIETY OF LONDON.

TUESDAY, MARCH 3RD, 1857.

THOMAS WATSON, M.D., President, in the Chair.

ATROPHIED KIDNEY. BY SIDNEY JONES, ESQ.

THE specimen was taken from a boy, aged 15, who died of peritonitis. With the exception of a mild attack of measles at an early age, he had always enjoyed good health. On making the *post mortem* examination, the right kidney was found from two to three times its normal size, but its structure was healthy, and it occupied its normal position. In the place of the left kidney was a mass weighing about one drachm, containing a number of cysts, some few of which were occupied by fluid, but the greater number of them were collapsed, and had corrugated walls. The microscope showed its structure to be made up of fibrous tissue, white and elastic, amongst which were found microscopic cysts, atrophied Malpighian bodies, and altered renal tubes, in such abundance as to leave no doubt of the nature of the specimen. In the situation of the pelvis, three vessels were traced—viz., artery, vein, and ureter. The vein was pervious; the others formed thick ligamentous cords.

CYSTIC DEGENERATION WITH GRANULAR DISEASE AND ATROPHY OF THE KIDNEYS. BY C. J. HARE, M.D.

The kidneys were removed from a female, Anne W., aged 69, who died suddenly on February 5th. She was intemperate in her habits; had suffered from rheumatic gout, and occasionally from fits, or "convulsions," which from the description given appear to have been epileptic. Mr. H. C. Stewart, who made the *post mortem* examination, found much congestion of the cerebral membranes, and an effusion of watery fluid in the cavity of the arachnoid. Both lateral ventricles contained some serous fluid, but in the anterior part of the right one there was, in addition, a large clot of blood which extended into the third and fourth ventricles, and to the base of the brain. The left kidney was small. The capsule, on removal, brought away with it some portions of the kidney substance. The surface of the organ was rough, granular, and mottled, and presented a large number of cysts, which were also abun-

dant throughout the substance of the kidney; they varied from a size just visible to three-eighths of an inch in diameter, and were filled with a thin slightly yellowish-brown fluid, which varied in tint in the different cysts. The right kidney was yet smaller than the left one, but the cysts in it were more numerous and larger. The kidneys presented very good specimens of granular disease combined with cystic degeneration of the organs.

FIBROUS TUMOUR OF THE UTERUS. BY T. W. NUNN, ESQ. REPORT BY W. BRINTON, M.D., AND C. WEST, M.D.

Dr. Brinton read a report, by Dr. West and himself, on the tumour exhibited by Mr. Nunn at a previous meeting (see page 262). This report confirmed that of Dr. Bristowe and Mr. Hutchinson. It regarded the disappearance of the uterus from the cervix upwards, the coincidence of an ordinary uterine fibroid, and the structure of the mass in question, as together deciding its uterine nature and origin. The ovary, they thought, was probably involved in the mass: indeed, Dr. Brinton could trace what was possibly a relic of it.

Mr. Nunn mentioned that Dr. Engel, of Prague, in speaking of this case, had stated that he had never seen a uterine tumour ossified in this peripheric manner.

Dr. Brinton reminded the Society that Mr. Hutchinson had settled this objection by discovering such a tumour in the museum of St. Bartholomew's Hospital. Speaking without book, it was his (Dr. Brinton's) impression that he had seen records of several. Meckel (*Pathologische Anatomie*) regards the ossification of the periphery as the commonest commencement of the change; and specifies two tumours (of one and four inches diameter respectively) with an envelope or shell of brownish-yellow bone, like the specimen in question.

POLYPUS EJECTED FROM THE STOMACH. BY AMOS BEARDSLEY, ESQ.

The details of the case were related by Dr. Quain.

H. C., a female, aged 19, of robust appearance, had enjoyed good health till about twelve months ago, when she had an attack of herpes zoster on the left side. This yielded to the usual treatment, and in about a week after the attack she regained her usual state of health. Menstruation has always been regular. A short time after the attack of herpes she began to suffer from distension of the stomach, chiefly after meals, which was attributed to flatulence. This was subsequently followed by pain, which was always increased after eating. The pain at first only presented slightly and occasionally through the day, except after meals; became very bad during the night, and her sleep was disturbed. For the last three months she has lost much weight, during six weeks as much as a stone and a half. The bowels have always been regular; but the urine has been turbid on cooling since the attack of shingles, sometimes plentiful in quantity, and sometimes scanty. She has frequently felt faint with the pain at the stomach, which latterly has also extended to the left side. No sense of soreness or tenderness externally. About a month ago Mr. Beardsley prescribed an alkali and bitter infusion, which relieved her pain somewhat, and the flatulence, etc. The case being considered merely as the derangement of the stomach, he heard no more of it. On Tuesday last, when on going to her usual employment, she felt suddenly faint, and vomited the tumour laid before the Society. At the time of its ejection she felt what appeared to be another rising in her throat, but she swallowed it again. She felt very faint and poorly all the subsequent day, with a great deal of soreness at the pit of the stomach, extending to the left side. Her appetite has failed her during this week; but she now feels as well as before she vomited, though she has at intervals ejected a little blood, etc., which has risen in her mouth. The pulse is 84. Her appearance is now somewhat sallow and pale. She often feels her hands and fingers numb, and she suffers from a constant creepy feeling of the flesh. For the last twelve months she has had much flatulence, and her appetite has varied, sometimes rather voracious, and at others the contrary. The bowels have always been quite regular, and she has never suffered from diarrhœa. The tumour, which is about the size of a small chesnut, appears to have been attached by a very small pedicle to the mucous coats of the stomach. It was very firm when vomited, and like an unshelled egg. It appeared to be very vascular, and the anastomoses of the bloodvessels on its surface were well discerned by reflected light, and indeed by the unaided eye. The cut surface of the tumour presented small foramina or cells, and the specimen, when examined by the microscope, was found to consist of a mass of connective tissue, bloodvessels, and granular cells, and granular particles, apparently fatty, covered by a layer of mucous membrane. The membrane consisted as usual of a basement layer, the surface of which was covered by a layer of columnar epithelium. The tumour was of a simple character, corresponding to that known as the gastric polypus. It is a rare form of disease, not often reaching the size of the present specimen. Mr. Beardsley assigned the presence of the gastric symptoms to the existence of this or similar tumours, some of which probably still remain, as the symptoms, though mitigated, have not disappeared. He also recognised a connection between the occurrence of the shingles and the presence of this tumour.

SMALL CRETACEOUS MASSES, EXPECTORATED BY A PERSON WHO WAS OTHERWISE IN GOOD HEALTH. BY T. B. PEACOCK, M,D.

The patient was a middle aged female. She stated that about four years before she had expectorated two similar bodies, and had been quite well since that time. The pieces exhibited were eight in number, and were expectorated at two different times; they varied from the size of a pea to one-fourth of that size. At the time the patient had a hard cough, and the feeling as of something in the throat; but there was no material amount of mucus expectorated with them, but only a few streaks of blood. After the pieces had been voided, the cough soon ceased entirely, and the patient, on careful examination, presented no evidence of pulmonary or other disease. Dr. Peacock mentioned that most generally, when cretaceous masses were expectorated, it was in patients who had laboured under phthisical symptoms, and had recovered to a more or less marked degree, and then relapsed. In the present instance—and it was the only one of the kind he had seen—there was no reason to suppose that the lungs were affected, and he was therefore led to believe that the cretaceous bodies were extruded from bronchial glands which had been tuberculous in early life.

Editor's Letter Box.

POOR-LAW MEDICAL REFORM.

LETTER FROM RICHARD GRIFFIN, ESQ.

Sir,—By the accompanying letter to the Poor-Law Board, you will perceive the Weymouth Board of Guardians have paid me all the fees to which I laid claim. The amount, £4 : 14 : 6, was not in itself the object so much sought as to establish the principle that medical officers are entitled to receive fees when called in consultation out of their own districts; to render the claim legal, it is necessary to have an order from the relieving officer; in a case of emergency, the overseer has also power to give an order. Three of the cases for which the fees are now paid are narrated in my pamphlet addressed to Lord Palmerston (see letter, Dec. 12th); the fourth was for a consultation out of my district, by order of the relieving officer, to decide on the permanency of a pauper's complaint prior to removal to his own parish.

One of my colleagues has also been paid £2 for a difficult case of midwifery, which he attended in consultation out of his own district by order of the relieving officer. The principle is, therefore, now fairly established, and it rests with my medical brethren to carry it out. I am, etc.,

RICHARD GRIFFIN.

12, Royal Terrace, Weymouth, April 18th, 1857.

I. *Mr. Griffin to the Poor-Law Board.*

"12, Royal Terrace, Weymouth, 15th April, 1857.

"My Lords and Gentlemen,—In my letter to your Honourable Board, dated April 4th, I stated—'The Board of Guardians have not paid me the fee to which you said I was entitled (see your letter of Jan. 28th).' I now beg to inform you that I have this day received all the fees due to me. I trust the other parts of my letter will receive your serious and early attention. "I have the honour to be,

"My lords and gentlemen, your obedient servant,

"RICHARD GRIFFIN.

"The Poor-Law Board."

II. *The Secretary of the Poor-Law Board to Mr. Griffin.*

"Poor-Law Board, Whitehall, 18th April, 1857.

"Sir,—I am directed by the Poor-Law Board to acknowledge the receipt of your letters of the 4th and 15th instant, in reference to the remuneration which you receive for your

services as the medical officer of the Weymouth district of the Weymouth Union. "I am, sir, your obedient servant,

"N. W. GREY, *Secretary*.

"To Richard Griffin, Esq."

ON SOME ALLEGED ILL EFFECTS OF AMYLENE.

LETTER FROM JOHN SNOW, M.D.

SIR,—I shall be obliged if you will allow me to make a few remarks on the case of operation for stricture by Mr. Syme's method, reported at page 331 of your last number. The operation was followed by some severe symptoms which the reporter of the case attributes to the amylene which had been inhaled. The symptoms, however, were such as are occasionally produced by operations on the urethra, more especially by the operation in question, and are not such as amylene, or any analogous substance has been known, or would be likely, to produce. I have seen very similar symptoms to those which occurred to Mr. Erichsen's patient follow the introduction of bougies, with some bleeding from the urethra—the convulsions only were wanting. I should wish, however, to call particular attention to the following passage in a paper by Mr. Syme on the treatment of strictures of the urethra by external incision. (*Medico-Chirurgical Transactions*, vol. 36, p. 260.) "A curious train of nervous symptoms sometimes present themselves, to the great consternation of all who have not previously witnessed them, or are unaware of their nature. They occur most frequently soon after the catheter is withdrawn, and appear to depend on the urine resuming its natural course, but have also been observed at an earlier period. They have never, so far as I know, lasted more than thirty hours, and seldom continue above half this time. They consist of rigors, bilious vomiting, coldness of the extremities, suppression of urine, and delirium. They require no treatment, and do not seem to admit of being alleviated or curtailed by opiates, stimulants, or other means of remedy, requiring merely a little time for their disappearance, so that the only cordial of any service is a confident assurance on the part of the surgeon that there is no ground whatever for the slightest alarm or uneasiness."

I have administered amylene in 146 cases without ever meeting with any of the symptoms which occurred in Mr. Erichsen's case, except simple vomiting without depression, and that not a quarter so often as happens after chloroform. Amylene has also been largely used in France without producing any such symptoms as those which Mr. Syme describes, and which occurred after the operation in question. Amylene resembles chloroform very closely in its effects—more closely, indeed, in one respect, than could be desired—that of its power to cause sudden accidents; but chloroform, so extensively as it has been used, has not been known to occasion suppression of urine, or the train of symptoms connected with, and caused by, the congestion of the kidneys and suppression of urine which occurred in Mr. Erichsen's case. Amylene bears a great resemblance to nitrous oxide gas, both in the symptoms it produces, and in the promptitude with which its effects come on and pass off; but although this gas has been breathed for amusement, during almost sixty years, it is not recorded to have produced such a train of symptoms in any case as were met with after the operation under consideration.

Apart from all the experience above alluded to, it would be extremely unlikely that a medicine, whose physical properties compel it to pass away in the breath, with the exception of a minute trace, in a few minutes, should produce a fresh set of serious symptoms hours afterwards, the patient having been well in the mean time. It would be as if the effects of alcohol or opium should return after a few weeks. With regard to the term poisoning of the blood which occurs in the report to which I have referred, the blood may be said to be poisoned as long as any trace of a medicine or condiment remains in it; but a few hours after a patient has inhaled amylene his blood is not more poisoned by it than that of the surgeon and his assistants was at the time of the operation. The important poisoning of the blood in Mr. Erichsen's patient arose from the retention of excrementitious materials which the kidneys failed to eliminate, and the convulsions seem to indicate that the urea was decomposed into carbonate of ammonia. Sufficient particulars are not related, with regard to the vomiting which followed the previous operations, to enable one to form an opinion as to whether it was caused by the chloroform or not; but it is not improbable that it was due in a great measure to the operation. Vomiting is a symptom which used to occur after operations, now and then, before chloroform was used; and this agent, besides the vomiting which it undoubtedly occasions, has often to take the blame of that produced by other causes, such as a dose of opium, loss of blood, morbid poisons, and derangement of the renal and other functions occasioned by an operation. I am, etc. JOHN SNOW.

18, Sackville Street, April 1857.

MR. FOX AND MR. TAYLOR.

LETTER FROM L. O. FOX, ESQ.

SIR,—I have at length made Mr. Francis Taylor "break cover", but he "ran very short", as sportsmen have it, and is "gone to earth". "He dies, and makes no sign," etc., etc.

Will you be so good as to insert the following notes? I could not ask to occupy your pages with comment. I do not think, however, that you will withhold *your* opinion on this matter. I am, etc., L. OWEN FOX.

April 28th, 1857.

"*To Mr. Francis Taylor.*

"SIR,—Lest my public appeal to you should escape your notice, I forward a copy of one of the journals of this day's date, containing my letter addressed to you. I trust you will lose no time in replying thereto. Should you persist in being silent, I shall take such other steps in the matter as I may be advised.

"I may mention, that this note will probably be published.

"I am your obedient servant,

"L. OWEN FOX.

"April 25th, 1857."

"*To L. Owen Fox, Esq.*

"SIR,—I have studiously avoided reading, and therefore answering, any of your correspondence in the medical journals, and I intend to continue to do so. I therefore return the periodical you sent me unopened, and decline all further correspondence on the subject to which your letter refers.

"I am, sir, yours faithfully,

"FRANCIS TAYLOR.

"Romsey, April 27th."

UNQUALIFIED PRACTITIONERS.

SIR,—As a member of the British Medical Association, will you be kind enough to give this a place in the JOURNAL, and give me or your numerous readers a reply to the following questions?

You are aware that a host of unqualified practitioners abound in every neighbourhood throughout the length and breadth of the land; and such is the bold license they now take, that they stop at nothing to carry on their nefarious schemes. The Apothecaries' Act of 1815 was to have effected wonders—and it certainly has; but it has of late lain dormant, while the framers, and those who ought to carry out its powers, are every week eager enough to pocket the gold for a useless piece of paper, because they do not grant us that protection which they are enabled to give. I can only say, rather than they should have received my *six guineas*, I would have paid £30 for a more honourable diploma.

I have been induced to make these remarks, because, in my own vicinity alone, there are parties practising as general practitioners in the *three branches* who have no qualification whatever. One or two instances have been fully reported to the Society at Rhubarb Hall; but they refuse to enforce their powers, making every frivolous excuse; and then say "their funds will not allow" them to carry out a prosecution! Pray what becomes of the funds which are weekly received?

Can A, only a druggist, but practising generally in the three branches, be put down? Can B, holding only a College diploma (London) since 1830, be prosecuted, although he holds a union practice? Can C, of late only holding a diploma from the Edinburgh College of Surgeons, be allowed to practise without the Apothecaries' license? Is it lawful, under the Act of 1815, for a person to practise in the *three branches* with only a St. Andrew's diploma? Lastly, can B, C, and D, recover any charges for *medical* cases purely?

Your attention, at your convenience, to the above will oblige, sir, yours, etc., DELTA.

April 28, 1857.

STOP THIEF! STOP THIEF! STOP THIEF!—ADVENTURE OF A SURGICAL POCKET-CASE.

LETTER FROM HENRY HANKS, ESQ.

SIR,—The facility with which the rapacious obtain entrance into the dwellings of medical men, either by a frivolous excuse, or by an apparently correct narrative of a feigned complaint, as pain, headache, etc. (the existence of which, although the physiognomy of the narrator render the truth of the assertion dubious, cannot safely be contradicted), subjects our habitations to be occasionally infested with those pseudo-patients, who pursue their dishonest avocations with a degree of success, the vigilance of the practitioner not being aroused until the treachery is detected contemporaneously with the loss of property. To thwart the stratagem of our obnoxious visitors, to forewarn others against the courage of an expert thief, is the object of this letter.

I. On Friday evening last, a female was shown into my waiting-room, and, when I was disengaged by the departure of a patient of a different character, she was removed into my consulting-room. Meeting me with a mien of extraordinary civility, she said that she required a few pills to relieve pain in her back; and that if I considered other medicine necessary, her mistress, Mrs. Kerby, with whom she lived fourteen years in Finsbury, and ten months at 24, Beaumont Square, would pay for it in a fortnight, as she caused the pain. I left her alone to prepare the pills. On my return, she was standing (a common attitude for patients of this description, who cannot be prevailed upon to sit), and instantly inquired what would be my charge for medicine if her mistress was desirous that she should have it. She was to be careful to go to the doctor's with the private house; and to convince her mistress that she made no mistake, she wished me to furnish her with a card. On leaving, she asked whether I should be at home within half an hour. Shortly after, I wanted my surgical pocket-case. Seeking for it, where I usually place it in my book case, I could not find it. My wife had overheard the noise, familiar to her ear, occasioned by the falling of the door together. I sent to the house in the square, where the thief stated she was in service. No person of the name mentioned resided there. I gave information at the police station, and supplied an account of the contents of the pocket-case. On Monday morning, a police messenger apprised me that my lost case was discovered. The thief attempted to pawn it near Finsbury, asserting that it belonged to a surgeon in that neighbourhood; my name and residence while a pupil, having eluded her observation. The case was retained without any loan upon it. I rejoice to add that it is again in my possession.

The thief was about twenty-eight years old, short, stout, with a fresh colour, smiling during conversation, and at the time her voice resembled that of a person with a cold. She wore a light brown bonnet, and a woollen shawl of the same colour, with red margins.

If she endeavours to plunder the house of any of the readers of this letter, and be arrested in her nefarious pursuit, I would, if an opportunity of identifying her be afforded me, promote the punishment which she deserves.

II. Early one morning, a man, aged about fifty, visited me to ascertain my fee for writing a certificate, that an infirm relative may obtain her pension. His manner was hurried: "he would call for it". This he neglected; but he did not omit to take a penknife with a pearl handle, embellished with silver.

III. A middle aged man, with round features, was an occasional visitor of mine. He always offered some article for sale: test-papers, gallipots, etc. If I refused to purchase, he begged, generally "in order to procure lodging for the night, until he went in the morning to a situation promised him by Mr. ——." With a slate in my hand, I said: "Pray, what is your name?" (Recording it.) "And where do you live?" "That I could not exactly tell you", was his reply. I have not been troubled by him since.

These are examples of the schemes contrived by thieves for effecting their purpose. The exposure I have given may enlighten others, unsuspecting like myself, and may guard their instruments from the adventure attached to the surgical pocket-case of HENRY HANKS, M.R.C.S.Eng.

9, Beaumont Street, Mile End, April 25th, 1857.

Medical News.

BIRTHS, MARRIAGES, DEATHS, AND APPOINTMENTS.

In these lists, an asterisk is prefixed to the names of Members of the Association.

BIRTHS.

CREASY. On April 22nd, at Carshalton, Surrey, the wife of William Everard Creasy, Esq., Surgeon, of a son.

DIXON. On April 25th, at Lansdowne Terrace, Brighton, the wife of Joseph Dixon, Esq., Surgeon, of a daughter.

*HARWOOD. On April 25th, at Derby, the wife of Charles Harwood, M.D., of a daughter, stillborn.

SCOTT. On April 22nd, at Whittlesea, Cambridgeshire, the wife of Robert Charles Scott, Esq., Surgeon H.M.S. *Fury*, of a son.

WORDSWORTH. On April 27th, at 41, Finsbury Square, the wife of John Cawood Wordsworth, Esq., Assistant-Surgeon to the London Hospital, of a son.

MARRIAGES.

*BROWN—COOPER. BROWN, George Dransfield, Esq., Surgeon, of Henley-on-Thames, to Eliza, eldest daughter of the late James Cooper, Esq., of Caversham Hill, at Caversham, on April 23rd.

MACRORIE—BOUTFLOWER. MACRORIE, D., jun., Esq., youngest son of *David Macrorie, M.D., of Liverpool, to Marianne, third daughter of the Rev. H. C. Boutflower, incumbent of Bury, at Bury, Lancashire, on April 23rd.

*TERRY—THORP. TERRY, George, Esq., Surgeon, of Mells, Somerset, third son of *Henry Terry, Esq., of Northampton, to Frances, eldest daughter of the late Rev. Thomas Thorp, rector of Burton Overy, Leicestershire, at the parish church, Ribbesford, Worcestershire, on April 23rd.

TOMS—READ. TOMS, Francis Yeates, Esq., Surgeon R.N., to Marianne, youngest daughter of R. Read, Esq., of St. George's Square, Belgravia, at St. George's, Hanover Square, on April 30th.

DEATHS.

BLAIR. On April 27th, Mary, widow of the late Thomas Blair, M.D., of Brighton, aged 72.

DAMPIER, Nathaniel John, Esq., Surgeon, after a long illness, on April 26th.

WAUGH. On April 23rd, at 38, Hertford Street, May Fair, Mary, eldest daughter of the late Robert Waugh, Esq., formerly Staff-Surgeon Royal Army.

APPOINTMENTS.

RADCLIFFE, Charles Bland, M.D., elected Physician to the Westminster Hospital.

REYNOLDS, J. Russell, M.D., elected Assistant-Physician to the Westminster Hospital.

HEALTH OF LONDON:—WEEK ENDING APRIL 25TH, 1857.

[From the Registrar-General's Report.]

IN the week that ended on Saturday, 1065 deaths were registered in London, a number which differs only in a small degree from those of the two previous weeks. In the ten years 1847-56, the average number of deaths in the weeks corresponding with last week was 1048. But as the deaths of last week occurred in an increased population, the average, to admit of comparison, should be raised in proportion to the increase, in which case it will become 1153. The result is, that the number now returned is less by 88 than the deaths that would have occurred if the average rate of mortality had prevailed.

The births registered last week were 1788; they were numerous enough to supply the vacancies caused by deaths, and to contribute, moreover, 723 lives to the increase of population.

Although the weather has lately been changeable, and on some days of an ungenial character, it does not appear as yet to have fatally aggravated those complaints which are most subject to its influence. The deaths caused by diseases of the respiratory organs were last week 205, having been in the two previous weeks 222 and 200. The corrected average for last

week is 200. From bronchitis and pneumonia together, 179 persons died last week; of these, 83 were children less than three years old. Hooping-cough continues to be the most fatal of the diseases of the zymotic class; it numbers 57. One death from small-pox occurred in the West districts, and two in the North; there were none in any other part of the metropolis. The deaths from typhus (and common fever) declined to 29, of which 14 occurred in the East districts. The West districts return none from fever. A case of bronchitis and typhoid fever which proved fatal in Somers Town is stated by the medical attendant to have arisen from the opening of a foul drain in the house. Scarlatina was fatal in 20 cases, 3 of which occurred in the sub-district of Kennington (first part), in houses that are situated not a hundred yards from each other. In one of these houses six persons have been attacked with scarlatina, and two of them have died. Four nonagenarians, all women, died in the week; the oldest, a widow, in the Hornsey Road, had attained the age of 96 years. Two cases of intemperance are recorded in the present return.

Last week the births of 904 boys and 884 girls, in all 1788 children, were registered in London. In the ten corresponding weeks of the years 1847-56 the average number was 1583.

At the Royal Observatory, Greenwich, the mean height of the barometer in the week was 29·882 in. The mean readings on Monday and Tuesday were above 30 in. The highest reading was 30·14 in. on Monday. The mean temperature of the week was 46·6°, which is 0·6° below the average of the same week in forty-three years. On Sunday the mean temperature was 56·4°, which is 9·9° *above* the average of the same day; it continued above the average till Wednesday; and on the last three days it was from 7° to 9° *below* it. The *highest* reading was obtained on Sunday, and was 69°; the *lowest* was on Friday, viz., 28·2°, showing a range of temperature equal to 40·8° in the week. The mean dew-point temperature was 40·1°, and the difference between this and the mean temperature of the air was 6·5°. The wind in the beginning of the week was for the most part in the south-west; on the last three days it was generally in the north-east. Rain fell to the amount of 0·32 in., most of which fell on Wednesday. Hail fell on Friday. The last three days are described as very cold and bleak.

THE JENNER MONUMENT. The Piedmontese Committee, consisting of Professor Berutti, *President;* Commendatore Dr. Frompeo, *Treasurer;* Professor Buniva, *Secretary;* Professor Demaria; Dr. Parola; have transmitted, through the Sardinian Ambassador, to the London Committee, the sum of £93 : 1 : 8, being the amount of subscriptions collected by them. The statue of Dr. Jenner is now finished, and we understand that the Committee will shortly put themselves into communication with the Government as to the site for its erection.

TO CORRESPONDENTS.

TO CONTRIBUTORS. The Editor would feel glad if Members of the Association and others, would cooperate with him in establishing as a rule, that in future no paper for publication shall exceed two pages of the Journal in length. If the writers of long communications knew as well as the Editor does, that lengthy papers *always* deter the reader from commencing them, this great evil would never arise. Brevity is the soul of medical writing—still more than of wit.

NOTICE.—DR. WYNTER will feel obliged if the Associates will address all Post Office Orders in payment of Subscriptions, to the Publisher, Mr. THOMAS JOHN HONEYMAN, 37, Great Queen Street, Lincoln's Inn Fields, London, W. C., "Bloomsbury Branch"; and he would also feel obliged by their sending all communications respecting the non-receipt of the Journal, to the same address; as both these matters are out of the province of the Editor.

Members should remember that corrections for the current week's JOURNAL should not arrive later than Wednesday.

DISEASES OF SPECIAL OCCUPATIONS. Dr. J. C. HALL'S Article on the Diseases of the Sheffield File Cutters will appear next week.

THE MEMORIAL of the Manchester Medico-Ethical Association shall be inserted next week.

Communications have been received from:—DR. COCKLE; MR. T. HOLMES; DR. GARROD; DR. J. SLOANE; DR. J. RUSSELL; MR. HENRY HANKS; MR. RICHARD GRIFFIN; DR. J. C. HALL; DR. CHARLES HARWOOD; DR. ROULSTON; MR. L. OWEN FOX; DR. SNOW; DR. EDWARD SMITH; MR. WEBBER; MR. MOULLIN; VOX ET PRÆTEREA NIHIL; DELTA; MR. OBRE; MR. JOSEPH STONE; MR. J. WILSON; MR. JAMES YEARSLEY; SIR JAMES L. BARDSLEY; DR. CLAY; DR. SHAPTER; B. A. J.; THE LECTURERS OF ST. GEORGE'S HOSPITAL; DR. HANDFIELD JONES; DR. HILLIER; THE SECRETARIES OF THE WESTERN MEDICAL AND SURGICAL SOCIETY; DR. JOHN WEBSTER; MR. H. TERRY; DR. P. H. WILLIAMS; MR. IRVING; THE CHANCELLOR, VICE-CHANCELLOR, AND FELLOWS OF THE UNIVERSITY OF LONDON; MR. JOHN ROBERTON; and DR. THOMAS RADFORD.

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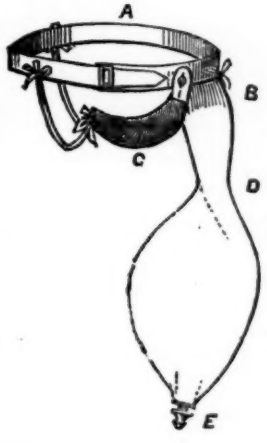

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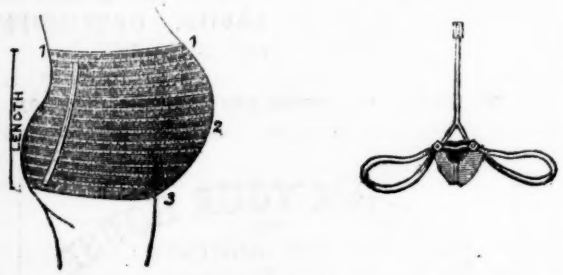

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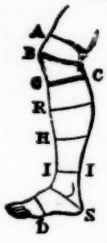

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